![PARCC — Partnership for Assessment of Readiness for College and Careers]

PARCC Responses to the Arizona Department of Education RFI
Standards-Based Competency Assessments, Grades 3-11

1a. Provide a brief history of the organization and its governance structure.

The Partnership for Assessment of Readiness for College and Careers (PARCC) is a consortium of states working together to develop a common set of K-12 assessments in English Language Arts (ELA)/Literacy and Mathematics aligned to the Common Core State Standards (CCSS). These K-12 assessments will build a pathway to college and career readiness by the end of high school, mark students' progress toward this goal from grade 3 through high school, and provide teachers with timely information to inform instruction and provide student support. The PARCC assessments will be field-tested in 2013-2014 and the operational tests will be ready for states to administer during the 2014-15 school year.

Since PARCC states first came together in early 2010, states have led and continue to lead the development of the assessments. State chiefs, state assessment directors, and higher education leaders, including leaders from Arizona, helped shape the grant proposal to secure funding for PARCC's work and, over the years, have been at the table for every policy and operational decision regarding the tests.

Hundreds of state education staff, higher education leaders and K-12 educators have been deeply involved in the work of PARCC in a variety of ways:

- Reviewing every single item that will be on the tests;
- Designing the test blueprints and working closely with PARCC's vendors to provide quality assurance for test development;
- Developing specifications for the PARCC field test, technology platform and other key assessment components;
- Working with educators in their districts to prepare for PARCC implementation and become familiar with the assessments;
- Building K-20 collaboration to use PARCC scores to support students with cross-sector interventions;
- Engaging higher education in establishing policies and practices that will facilitate the use of PARCC to support students' college readiness, access, and completion; and
- Engaging postsecondary faculty and stakeholders to ensure that postsecondary institutions accept the PARCC assessments as a valid indicator of college readiness and are ready to incorporate the PARCC scores into placement metrics.

PARCC is governed by its member states through the participation of chief state school officers from PARCC states on the consortium's Governing Board, state higher education leaders on the PARCC Advisory Committee on College Readiness, and senior leaders from the state's K-12 and higher education sectors on the K-12 State Leads committee and Higher Education Leadership Team.

- The **PARCC Governing Board** is responsible for all major assessment design and related policy and operational decisions on behalf of the multi-state consortium. A subset of the Governing Board members also serve on the PARCC Executive Committee, which meets weekly to provide guidance and decision-making on time-sensitive issues as they arise.

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- The **PARCC Advisory Committee on College Readiness (ACCR)** is comprised of state higher education executive officers and other state- and nationally-recognized leaders in the postsecondary community. They work with the PARCC Governing Board to ensure that PARCC successfully develops college readiness assessments that will be accepted as an indicator of readiness for first-year, credit-bearing courses by colleges and universities across PARCC states.

- The **PARCC K-12 State Leads Committee** includes state assessment directors and other senior state education agency staff from every PARCC state. The K-12 State Leads are responsible for coordinating all aspects of the development of PARCC assessments, with support from the consortium's project management partner. They are responsible for coordinating the state's involvement in working teams and item review committees, and serve as the conduit to the Governing Board and the PARCC Technical Advisory Committee (TAC). The K-12 State Leads convene monthly for in-person meetings and weekly for conference calls.

- The **PARCC Higher Education Leadership Team** is responsible for coordinating higher education engagement around the PARCC assessment system in their states and works closely with the ACCR to ensure the PARCC high school assessments are valid and reliable indicators of students' academic readiness for postsecondary education.

There are also a wide range of committees, working groups, and teams of education leaders tasked with specific advisory, technical, and operational goals. These committees are deeply engaged in structuring, leading, and contextualizing the major assessment design and development activities, as well as working with stakeholders in each state to prepare for field testing and administration of the assessments. All member states are invited to serve on these working groups.

1b. Identify the individuals from the organization that will be working with Arizona officials on all aspects of the assessments' implementation

As a member of PARCC since 2010, Arizona is deeply involved in the development and implementation of the PARCC assessment system. Superintendent John Huppenthal serves on the PARCC Governing Board and is the primary decision-maker for the state of Arizona on all PARCC policy and design matters. In addition, representatives from Arizona serve on the PARCC K-12 State Leads and Higher Education Leadership Team, including Leila Williams, Sarah Gardner, Stephanie Jacobson and Karen Nicodemus. Arizona representatives also serve on multiple item review committees and operational working groups. A full list of Arizonans involved in PARCC is attached.

For the last three years, these Arizonans have worked closely with their counterparts in other PARCC states and with the consortium's project management partner, Achieve, on all development activities and related work to prepare for field testing and operational administration. Through December 31, 2013, Achieve and its staff will continue to work closely with the Arizona team on all PARCC-related development and implementation activities.

PARCC's contract with Achieve will be terminated as of December 31, 2013, and, beginning January 1, 2014, PARCC, Inc. will provide project management and governance support for the consortium through the remainder of the grant period and provide seamless ongoing project management support to PARCC states. The Achieve staff members that have conducted the work of PARCC over the last several years are transitioning to PARCC, Inc. so that they can continue to maintain the leadership and programmatic expertise

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that will see the project through the end of the development period, as well as the sustainment of the assessment moving beyond the grant. Many of them have been involved in work surrounding student assessment and academic standards for 15 or more years and are nationally known for their work, expertise, and leadership in this field.

Over the last three years, the Achieve staff members that will make up PARCC, Inc. starting January 1, 2014, have been intimately involved in the development of each of PARCC's procurements, subsequent contracts, and contract management for each contractual relationship that has been let and awarded. This includes contracts will an overall project cost of $70 million dollars. This work has and continues to require a high level of quality control with each contracted vendor on behalf of all PARCC states. Attached please find a full list of the PARCC, Inc. staff, and their roles, responsibilities, and qualifications.

2a. Describe the assessments, the grades assessed, the subject areas included, and the formative, diagnostic and summative components. Also describe available end-of-course assessments for grades nine through eleven.

All PARCC assessments will be based directly on the Common Core State Standards in English Language Arts/Literacy and Mathematics. The distributed PARCC design includes five components – two required summative; two optional non-summative; and one required non-summative – to provide educators with timely feedback to inform instruction and provide multiple measures of student achievement across the school year.

The 3-8 PARCC assessments will be delivered at each grade level. For high school, there will be assessments for each of the grades 9, 10, and 11. The high school assessments take the form of end-of-grade assessments in English Language Arts/Literacy and end-of-course assessments in Mathematics in two course sequences: Algebra I, Geometry, and Algebra II; and an equivalent integrated sequence, Mathematics I, II, and III.

> **Diagnostic Assessment:** grades 3-8; non-summative; optional
> **Mid-Year Assessment:** grades 3-11; non-summative; optional
> **Performance-Based Assessment***:* grades 3-11; summative; required
> **End-of-Year Assessment:** grades 3-11; summative; required
> **Speaking and Listening Assessment:** grades 3-11; non-summative; required

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Figure I.B.1. PARCC Assessment System

Beginning of School Year | Flexible administration | End of School Year

Diagnostic Assessment
- Flexible indicator of student knowledge and skills
- Allows instruction, supports and professional development to be tailored to improve student learning

Mid-Year Assessment
- Performance-based items and tasks
- Emphasis on hard-to-measure standards
- Individual states may consider including as a summative component

Speaking and Listening Assessment

Performance-Based Assessment
- After 75 percent of the school year
- Extended tasks, applications of concepts and skills
  - ELA/literacy: Writing effectively when analyzing text, research simulation
  - Math: Solving multistep problems requiring abstract reasoning, precision, perseverance and strategic use of tools

End-of-Year Assessment
- After 90 percent of the school year
- Innovative, short-answer items
  - ELA/literacy: Reading comprehension
  - Math: Short items that address both concepts and skills
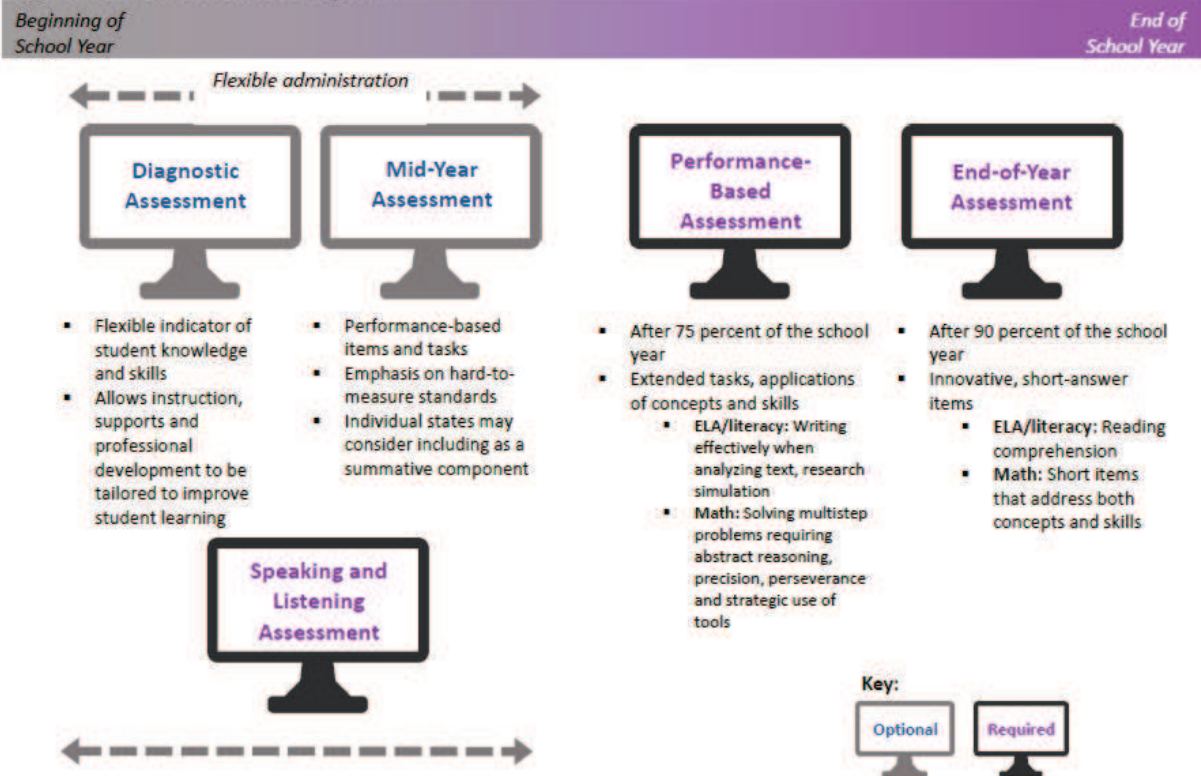
Key:
Optional | Required

Table I.B.1. PARCC Assessment System

Diagnostic Assessments	Mid-Year Assessments	Performance-Based Assessments (contributes to summative score)	End-of-Year / End-of-Course (contributes to summative score)	Assessment of Listening/Speaking
Diagnostic Assessments designed to pinpoint students' strengths and weaknesses relative to particular Common Core standards in the areas of reading, writing and mathematics. The assessments will be available for administration throughout the school year. For each content area, the diagnostics will include: a computer-based component that measures knowledge and skills that can be measured using machine-scorable items; a bank of performance tasks that measure knowledge and skills that are best measured using constructed-response items, along with scored student responses for each of the tasks in the bank to assist teachers in scoring, and an online professional development module designed to assist teachers in using reports generated by the diagnostic assessments effectively.	Mid-Year Assessments designed to inform curriculum, instruction and professional development. These assessments will be performance-based and focus on difficult-to-assess standards. To assist schools in implementing the mid-year assessments, the Partnership will develop an online tool designed to train teachers to score student responses to the assessments' performance-based tasks and build their understanding of PARCC performance expectations. Results of these assessments will not contribute to summative assessment results.	Rich Performance-Based Assessments in grades 3-8 and high school administered as close to the end of year as possible. Priorities in ELA/literacy will include focusing on writing effectively when analyzing text; in Mathematics, priorities will include focusing on application of concepts, skills and understandings. This assessment will be comprised primarily of performance tasks and will be scored in time to be incorporated into the end-of-year summative score for each student.	Grades 3-8 End-of-Year Assessments comprised of innovative, computer-based machine-scorable items focusing on reading and comprehending complex texts in ELA/literacy and Mathematics. High School: End-of-Course (EOC) Assessments in high school Mathematics, which will be comprised of innovative, computer-based machine-scorable items. States will have the option of selecting a traditional mathematics course sequence or an integrated mathematics sequence; each complete sequence will measure the full range of high school mathematics standards. End-of-year assessment in high school literacy, comprised of innovative, computer-based machine-scorable items assessing literacy skills in English and across the disciplines.	The Partnership will develop an assessment of listening and speaking that can be administered at any time of the year while preserving the strong integrity and rigor of the measures.

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The reading diagnostic assessment will be designed to report students' independent reading level as well as information about their ability to read and comprehend complex text. Diagnostic assessment results will not be included in summative assessment results.				
Test development for this assessment *is not* included in the scope of this RFP. Assessment Administration for this assessment *is* included in the scope of this RFP beginning in 2015-16	Test Development for this assessment *is not* included in the scope of this RFP. Assessment Administration for this assessment *is* included in the scope of this RFP.	Test Development and Assessment Administration for this assessment *are* included in the scope of this RFP.	Test Development and Assessment Administration for this assessment *are* included in the scope of this RFP.	Test Development for this assessment *is not* included in the scope of this RFP. Assessment Administration for this assessment *is* included in the scope of this RFP beginning in 2015-16

The assessment design presents PARCC states with a strong and coherent set of assessment components that are sustainable both in terms of cost and time devoted to student assessment and that signal the kinds of instruction needed for all of our students to make progress towards college and career readiness by the end of high school. The design assures:

- PARCC assessments will provide comparable results across member states.

- PARCC summative assessments are designed to report the extent to which students are "on track" or "ready" for college and careers.

- PARCC assessments are performance-based and measure the full range of Common Core State Standards, including but not limited to areas not included in many state assessments such as writing, speaking and listening, and solving multi-step mathematical problems.

- PARCC assessments will use state-of-the-art technology in all phases of the system including test development, administration, scoring and reporting. As a result, it is anticipated that assessment tasks will be authentic and engaging, students with disabilities will have efficient and consistent access to needed accommodations, with the intent that results will be returned quickly, and assessment costs will be affordable.

- The combination of PARCC summative, diagnostic, and mid-year assessments will measure the full range of student performance and generate information to inform curriculum and instruction.

  o PARCC summative assessments are carefully designed to measure the full performance continuum, meaning they will provide valid and reliable measures for all students, including high- and low-performing students. PARCC assessment results, including both status and growth scores, will be used as a factor in educator evaluation as well as school, district, and state accountability systems.

  o PARCC diagnostic and mid-year assessments will generate information that will inform curriculum, instruction and professional development throughout the school year. The Consortium will develop computer-based Diagnostic Assessments for reading, writing and mathematics. Local educators will be able to use these assessments anytime during the school year to diagnose areas of students' strengths and weaknesses and, as a result, respond to students' needs with focused interventions. Moreover, the Diagnostic

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Assessments will be designed so that students could take them multiple times, which will provide additional opportunities to measure individual student needs and make adjustments in instructional strategies as needed. Likewise, the Mid-Year Assessment will provide additional information about students' performance during the year and an opportunity to respond to the type of extended tasks that will appear in the performance-based summative component.

o   Not only will PARCC assessments provide comparable results across member states, but steps will also be taken to link PARCC results to international measures such as TIMSS – Trends in International Mathematics and Science Study and PISA – Programme for International Student Assessment. The Consortium's leaders will work with its Technical Advisory Committee to explore options for creating the linkages, which may include embedding assessment tasks from international assessments in PARCC operational assessments or having equivalent groups of students participate in both PARCC and international measures. The ability to make international comparisons will allow policy makers and business leaders to truly gauge the extent to which our public schools are preparing students to succeed in the increasingly competitive global economy.

2b. Describe the timeline for the development of the assessments to ensure full implementation by the 2014-2015 academic year.

The PARCC assessments will be operational and ready for full implementation by the 2014-2015 school year. Major upcoming milestones for PARCC development and implementation include:

Activity	Date
Field Test Tutorials Available	January 2014
Operational Assessment Vendor Selected	February 2014
Practice Test Available	April 2014
PARCC Field Test	March – June, 2014
PARCC Operational Assessment Administration	SY 2014-2015 *Nov. 2014 – Jan. 2014 HS block administration;* *Feb. 2014 traditional year PBA window opens*
Field Test Research Results	Summer 2014
Standard Setting	Summer 2015

2c. Describe how, and the degree to which, the assessments are specifically aligned to Arizona's academic standards in mathematics and English language arts (reading and writing), include any alignment studies, if available.

The PARCC assessments are by design built to assess the Common Core State Standards in English Language Arts/Literacy and Mathematics, which have been adopted by Arizona (Arizona's College and Career Ready Standards [AZCCRS]). Representatives from Arizona have been deeply involved in the development of the PARCC assessments, and have representation on the PARCC Governing Board, Advisory Committee on College Readiness, State Leadership Team, Higher Education Leadership Team, Operational Working Groups, Technical Working Groups, and item and form review committees – all to ensure the high-quality development of the PARCC assessments.

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2d. Describe how the assessments' results can be compared to other states' criterion-referenced assessments expected to be in use beginning in the 2014-2015 academic year.

Currently, there are eighteen states plus the District of Columbia collaborating to develop the PARCC assessments, including Arizona. All of the Governing States in PARCC will administer the same PARCC Performance-Based and End-of-Year Assessments in English Language Arts/Literacy and Mathematics. Therefore, there will be assessment comparability across the states within the consortium. In addition, PARCC sits on a Comparability Working Group with the states representing the Smarter Balanced Assessment Consortium to discuss strategies to increase comparability across the consortia. It is a priority for both consortia, representing a total of forty-three states across the country, to increase comparability to the greatest extent possible given individual consortium assessment design and priority principles.

2e. Describe how the assessments are aligned to college / career expectations. Describe the validation process, including the role of post-secondary education in establishing the readiness expectations. Include any alignment studies, if available.

The results of the PARCC assessments are intended to show whether students have mastered the content embedded in the Common Core State Standards to assure postsecondary education that students designated as "college- and career-ready" will, in fact, succeed in entry-level, credit-bearing courses without the need to take remediation.

It is anticipated that students who earn a PARCC College- and Career-Ready Determination (CCRD) by performing at level 4 in mathematics and enroll in College Algebra, Introductory College Statistics, or technical courses requiring an equivalent level of mathematics have approximately a 0.75 probability of earning college credit by attaining at least a grade of C or its equivalent in those courses. Students who earn a CCRD by performing at level 4 in ELA/literacy and enroll in College English Composition, Literature, or technical courses requiring college-level reading and writing are anticipated to have approximately a 0.75 probability of earning college credit by attaining at least a grade of C or its equivalent in those courses.

Because a goal of the PARCC assessments—to determine whether students are prepared to enter directly into introductory credit-bearing courses—is different from most current K-12 assessments, the process for engagement of postsecondary faculty in the assessment development, administration, research and reporting process is also different.

Hundreds of K-12 and postsecondary educators and faculty, content specialists and assessment experts from across the PARCC states have been involved in the development of PARCC assessment items. Postsecondary faculty are ensuring that college readiness skills embedded in the Common Core State Standards that point to success in entry-level, credit-bearing classes are measured on the PARCC Assessments in ELA/Literacy and Mathematics. Postsecondary representatives in PARCC states are actively engaged in designing the test, reviewing items, and helping to shape the policies and performance levels that will result in setting the cut scores.

Lastly, the research agenda for PARCC lays out a number of studies designed to validate the assessments as reliable and predictive. Postsecondary leaders are at the table to help make decisions about priority areas of study, policy, and practice changes in addition to the actual judgment of setting the college and career ready standards.

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PARCC Governing Board and Advisory Committee on College Readiness members jointly approved the following research studies to ensure the validity of the College- and Career-Ready Determinations and other aligned performance levels in the lower grades. These studies, listed in the Operational Assessment RFP released on November 14, 2013, include:

Study 1: Benchmark study to inform PARCC middle and high school performance standards
The purpose of this study is to identify initial points (or ranges of points) on PARCC assessments raw score or theta metrics (established with the 2014 field test) as Level 4 cut scores by gathering and using statistics indicating the proportion of students graduating high school as college- and career-ready students and the proportion of students on track to readiness in earlier grades.

The research will be conducted so that benchmarks are established for the Level 4 cut score for one elementary and one middle grade PARCC assessment (both ELA/literacy and mathematics), and ELA/literacy grade 11, high school Algebra II and Integrated Math III assessments.
Items for consideration in this study include:

1. Score distribution and percentage of students at or above Proficient on most recent NAEP assessments,
2. Score distribution and percentage of students at or above the college readiness benchmarks on ACT and College Board assessments (all relevant grades), including admissions and placement tests where appropriate
3. Score distribution and percentage of students at or above relevant benchmarks on international assessments,
4. Score distribution and percentage of students at or above the college- and career-ready (CCR) benchmarks on SBAC assessments,
5. Score distribution and relevant benchmarks from the Armed Services Vocational Aptitude Battery (ASVAB)
6. Relevant results from NAEP 12th Grade Preparedness Research
7. Relevant results from recent state assessment standard setting research (e.g. New York, Texas, Michigan)
8. Relevant statistics on graduation, remediation, workforce preparedness rates, analyses on post-secondary course content and learning materials, post-secondary course performance, and other relevant statistics including results from existing studies and surveys across PARCC states or at the national level, where available and appropriate.

Study 2: Performance of postsecondary students on PARCC assessments
The purpose of this study is to identify initial points (or ranges of points) on PARCC assessments raw score or theta metrics as Level 4 cut score by examining the relationship between postsecondary students' scores on PARCC assessments, PARCC CCR criteria and SAT and ACT benchmarks. The research study will be designed and conducted such that students included in the study, whose ACT and/or SAT scores are known, enrolled in credit-bearing entry level courses or technical courses requiring college-level reading, writing, and mathematics take PARCC ELA/literacy grade 11 and high school Algebra II and Integrated Math III assessments in fall 2014 and are followed throughout the fall semester to determine the relationship between success in postsecondary courses and performance on PARCC. The sample shall consist of students enrolled in:

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1. Relevant credit-bearing, entry level courses from three higher education institutions each from ten PARCC states
2. Relevant technical courses in five PARCC states

The results of the study shall be utilized in both the field trial standard setting (below) and the operational standard setting. For use in operational assessments, analyses shall be repeated with first year operational data.

Study 3: Postsecondary educators' judgment study to inform cut scores in PARCC high schools assessments
The purpose of this study is to gather recommendations, through surveys, from instructors and/or professors teaching relevant courses cited in PARCC CCR policy at the time of the study, and higher education admissions and/or placement specialists on cut scores for PARCC ELA/literacy grade 11 and high school Algebra II assessments that separate students who are academically ready for the relevant courses from those who are not. The participants in this study shall come from of the full spectrum of selective and open access institutions including two-year and four-year colleges and universities, and institutions of technical instruction. To the extent possible, the participants shall be selected from individuals who have experience in standard setting for educational assessments. The participants shall review items from the above mentioned PARCC assessments and make recommendations about how students would need to perform on these items and forms in order to be academically ready for the relevant postsecondary courses. The total number of participants shall not exceed three hundred.

This study will include how items will be selected and presented to the participants, how results will be synthesized so that the results may be presented during the field trial of the standard setting (below) and the operational standard setting. For use in operational assessments, analyses shall be repeated with first year operational data.

Study 4: Field trial of standard setting
PARCC plans to conduct a field trial standard setting for grade 11 ELA/literacy, and high school Algebra II, Integrated Mathematics III, and an additional mathematics and ELA/literacy assessment (to be selected in coordination with Partnership representatives) based on data obtained from the 2014 field test and the research studies listed above. The purpose of this study will be to examine the innovative features of the standard setting design/method(s). In particular, PARCC will conduct numerous evaluations during the field trial of the standard setting to understand strengths and weaknesses of the methodology, including training, and data presentations. These include:

1. Operational challenges and difficulties in setting up and running standard setting panel meetings,
2. The time it takes to set up and run panel meetings,
3. Variability in panelists' judgments,
4. Variability in and usefulness of empirical indicators utilized during standard setting,
5. How easy it is to understand the empirical indicators utilized during standard setting,
6. Usability and functionality of online system being used for standard setting, and
7. Whether there is a need for additional data/information that would help panelists during standard setting.
8. How Algebra II and Integrated Mathematics III cut scores can be reconciled
9. How cut scores for terminal high school assessments can be aligned with those for the earlier grades

The field trial standard setting will be based on the approved standard setting method that will be used in setting PARCC standards in summer 2015. The panels will be comprised of high education and K-12 educators, and policy makers. Each of the five panels will be comprised of approximately 12 people. Workshops will include TAC members as well.

Study 5: Longitudinal study of external validity of PARCC performance standards
The purpose of this study is to examine the external validity of cut scores for PARCC CCR performance level by examining if performance on PARCC assessments predicts success in entry level postsecondary courses and success in other relevant assessments. This longitudinal study will be designed and conducted to examine the relationship among (1) performance on PARCC ELA/literacy grade 11, Algebra II, and Integrated Math III, (2) ACT and/or SAT scores, and (3) postsecondary academic performance. Sample for the study shall come from students who will have taken the PARCC ELA/literacy grade 11, Algebra II, and Integrated Math III assessments in 2014-15 schools years and who are later enrolled in relevant credit-bearing, entry level courses; or relevant technical courses in various postsecondary institutions.
Performance in credit-bearing, entry level courses or technical courses requiring college-level reading, writing, and mathematics shall be used as indicators of post-secondary academic success.

Through statistical analyses, PARCC will examine:

1. The correlation between performance on PARCC assessments and postsecondary success and whether the Level 4 cut scores predict a 0.75 probability of attaining at least a grade of C or its equivalent in relevant courses described in PARCC's CCRD policy; and
2. The correlation between performance on PARCC assessments and ACT and SAT scores and the relative rigor of Level 4 cut scores compared to relevant SAT and ACT benchmarks.
3. Additional benchmarks against which to validate the cut scores.

2f. Describe the available accessibility features, as well as assessment accommodations for individuals with disabilities and English Language Learners.

Through a combination of universal design principles and computer-embedded accessibility features, PARCC has designed an inclusive assessment system by considering accessibility from initial design through item development, field testing, and implementation of the assessments for all students, including students with disabilities, English learners, and English learners with disabilities. Although accommodations may still be needed for some students with disabilities and English learners to assist in demonstrating what they know and can do, the computer-embedded accessibility features should minimize the need for accommodations during testing and ensure the inclusive, accessible, and fair testing of the diversity of students being assessed.

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The PARCC Accessibility System

Features for All Students

Accessibility Features*
Identified in advance

Accommodations**
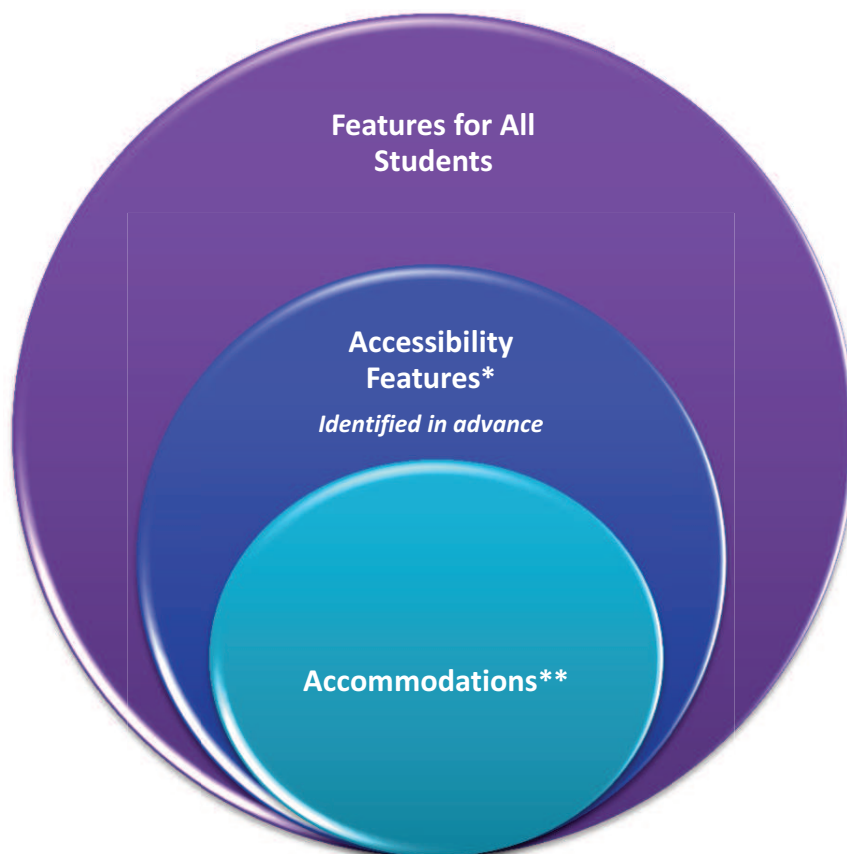
* Available to all participating students
**For students with disabilities, English learners, and English learners with disabilities

What are Accessibility Features?

On PARCC technology-based assessments, accessibility features are tools or preferences that are either built into the assessment system or provided externally by test administrators. Accessibility features can be used by any student taking the PARCC assessments (i.e., students with and without disabilities, gifted students, English learners, and English learners with disabilities). Since the accessibility features are intended for *all* students*,* they are not classified as accommodations. Students should be exposed to these features prior to testing, and should have the opportunity to select and practice using them. Accessibility features are intended to benefit a wide range of students, and are available to <u>any student at his or her discretion</u> during testing. Practice tests with accessibility features will be made available for teacher and student use throughout the year.

Accessibility Features Identified in Advance

A relatively small number of students may require additional accessibility features for their particular needs, which are not required by the vast majority of students (e.g., changing the background or font color onscreen, or using a screen reader for the math assessment). The on-off controls for these features might distract other students if they were shown onscreen or interfere with other features or accommodations, and therefore must be "turned on" for a particular student by a test administrator or other adult prior to

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testing. Accessibility features can be identified either by students, teachers, and/or parents, whichever is most beneficial to the student, and the student can decide whether or not to use the support, without any consequence to the student, school, or district. Recent research suggests that providing too many tools onscreen may lead to ineffective use of the tools provided and/or an impact on a student's test performance.[1] Students, in collaboration with educators, should select these accessibility features ahead of time, based on their needs and preferences, and must practice using them, either in a classroom setting or in real world application.

Individualizing access needs for each student on the assessment provides increased opportunities to accurately demonstrate knowledge and skills, and will reduce the likelihood of giving students incorrect accommodations or accessibility features on the day of the test.

Note: All references to appendices and additional sections refer to the *PARCC Accessibility Features and Accommodations Manual* found on the PARCC website here.

Table 1: Accessibility Features for All Students[2]

Support	Description	Identified in Advance by a PNP (During Test Registration Process)
Answer Masking	The student electronically "covers" answer options, as needed.	Yes
Audio Amplification	The student raises or lowers the volume control, as needed, using headphones. Student must be tested in a separate setting if unable to wear headphones.	
Background/Font Color (Color Contrast)	The student changes the onscreen background and/or font color based on need or preference. `Abc` **Black on Cream** `Abc` **Black on Light Blue** `Abc` **Black on Light Magenta** `Abc` **White on Black** `Abc` **Light Blue on Dark Blue**	Yes
Blank Paper (provided by test administrator)	The student may be provided blank sheet(s) of paper on which to plan or organize item responses.	

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[1] Higgins, J., Fedorchak, G., & Katz, M. (2012). Assignment of Accessibility Tools for Digitally Delivered Assessments: Key Findings. White Paper for Enhanced Assessment Grant # S368A100008.

[2] Abedi, J. & Ewers, N. (2013). Accommodations for English Language Learners and Students with Disabilities: A Research-Based Decision Algorithm.

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Support	Description	Identified in Advance by a PNP (During Test Registration Process)
Eliminate Answer Choices	The student "crosses out" possible answer choices (for multiple choice items only).	
Flag Items for Review	The student highlights items to review later.	
General Administration Directions Clarified (by test administrator)	The test administrator clarifies general administration instructions only. No part of the test may be clarified, nor may any assistance be provided to the student during testing.	
General Administration Directions Read Aloud and Repeated as Needed (by test administrator)	The student clicks a button to read aloud or repeat instructions. Student must be tested in a separate setting, if unable to wear headphones.	
General Masking	The student creates a custom "mask" to electronically cover portions of test items, including passages, as needed.	Yes
Highlight Tool	The student highlights text as needed to recall and/or emphasize.	
Headphones or Noise Buffers	The student uses headphones or noise buffers to minimize distraction, access embedded text-to-speech, or filter external noise during testing (in addition to required headphone for use on English Language Arts/literacy assessment).	
Line Reader Tool	The students uses onscreen tool to assist in reading by raising and lowering the tool for each line of text onscreen.	
Magnification/Enlargement Device	The student enlarges text and graphics onscreen, up to 400% (while preserving clarity, contrast, and color).	
NotePad	**The student** writes and edits **notes using embedded NotePad application.**	
Pop-up Glossary	The student is able to view definitions of pre-selected, construct-irrelevant words by selecting a hyperlink onscreen via a pop-up	

Support	Description	Identified in Advance by a PNP (During Test Registration Process)
	text box.	
Redirect Student to the Test (by test administrator)	The test administrator redirects the student's attention to the test without coaching or assisting the student in any way.	
Spell Checker	The student uses spell-check software.	
Text-to-Speech for the Mathematics Assessments	Text is read aloud to the student using embedded text-to-speech software. Student must be tested in a separate setting if unable to wear headphones.	Yes
Writing Tools	The student uses writing process tools for written responses, including cut and paste, copy, underline, bold, and insert bullets.	

Administrative Considerations for All Students

Detailed guidelines on the administration of the PARCC assessments will be included in the *PARCC Test Administration Manual.*

While students are generally tested in their regular classrooms according to the test administration schedule for students in the grade in which the assessment is being administered, However, the principal has the authority to schedule students in testing spaces other than regular classrooms, and at different scheduled times, as long as all requirements for testing conditions and test security are met as set forth in the *PARCC Test Administration Manual*.

Accordingly, principals may determine that any student may require one or more of the following test administration considerations, regardless of the student's status as a student with a disability or who is an English learner:

- Small group testing
- Frequent breaks
- Time of day
- Separate or alternate location
- Specified area or seating
- Adaptive and specialized equipment or furniture

Table 2: Presentation Accommodations for Students with Disabilities

Accommodation	Administration Guidelines
Additional Assistive Technology	Guidelines will be provided in winter 2013.

Updated December 4, 2013.

Accommodation	Administration Guidelines
Braille Edition of ELA/Literacy and Mathematics Assessments **Note:** • **Hard-copy braille tests for *ELA/Literacy and Mathematics*)** • **Refreshable braille displays for *ELA/Literacy only*)**	Refreshable braille displays must be used in conjunction with screen reader software. For students with visual impairments who are unable to take the computer-based test with a refreshable braille display, a contracted braille[3] form will be available.
Closed-Captioning of Multimedia Passages on the ELA/Literacy Assessments[4]	Students who are deaf or hard-of-hearing view captioned text on multimedia (i.e., video) on ELA/Literacy assessments.
Descriptive Video	Students who are blind or visually impaired listen to narrated audio description of key visual elements in multimedia (i.e., video) passages on ELA/Literacy assessments.
Paper-and-Pencil Edition of the ELA/Literacy and Mathematics Assessments	A paper-and-pencil form of each assessment is available for students who are unable to take a computer-delivered assessment due to a disability. The list of accommodations available for students who take the paper-pencil form is included in Appendix A.
Tactile Graphics	Students who are blind or visually impaired and read braille use tactile graphics.
Text-to-Speech or Video of a Human Interpreter for the ELA/Literacy Assessments, including items, response options, and passages[5]	The accommodation is intended to provide access to printed or written texts in the PARCC ELA/Literacy assessments to a very small number of students with disabilities who would otherwise be unable to participate in the assessment because their disability severely limits or prevents them from decoding printed text. Note: If headphones are *not* used, the student must be tested in a separate setting. IEP or 504 plan teams may consider providing this accommodation to a student who has a print-related disability that severely limits

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[3] The use of uncontracted braille is under discussion among PARCC states.

[4] The CCSS call for comparisons between different media. An example of this is RI9-10.7: Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account. Adding closed captioning to any students other than those who are deaf or hard of hearing affects the ability to effectively assess this type of standard, and therefore it is listed as an accommodation as opposed to a support for all.

[5] Note: There may be unintended consequences related to the use of this accommodation for some students. Review the adjacent Administration Guidelines carefully. PARCC will conduct additional research to provide PARCC states with data to substantiate the need for providing this level of access to a small number of students.

Updated December 4, 2013.

Accommodation	Administration Guidelines

	or prevents his or her ability to access printed text by decoding, or who is blind and is unable to access braille to read text. This accommodation is not intended for students reading somewhat (i.e., moderately) below grade level.
	
	Guidelines are provided below for IEP and 504 Teams to identify students to receive this accommodation:
	
	In making decisions whether to provide the student with this accommodation, IEP and 504 teams are instructed to consider whether the student has:
	
	• Blindness or a visual impairment and has not learned (or is unable to use) braille;
	    OR
	• A disability that severely limits or prevents him/her from accessing printed text, even after varied and repeated attempts to teach the student to do so (e.g., student is unable to decode printed text or read fluently);
	    OR
	• Deafness or a hearing impairment and is severely limited or prevented from decoding text due to a documented history of early and prolonged language deprivation
	
	Before listing the accommodation in the student's IEP or 504 plan, teams should also consider whether:
	
	• The student has access to printed text during routine instruction through a reader or other spoken-text audio format, or interpreter;
	• The student's inability to decode printed text or read braille is documented in evaluation summaries from locally-administered diagnostic assessments;
	• The student receives ongoing, intensive instruction and/or interventions in the foundational reading skills to continue to attain the important college and career-ready skill of independent reading.
	
	Decisions about who receives this accommodation will be made by IEP and 504 teams. However, PARCC will collect data on the frequency of its use for the purpose of carefully monitoring and determining appropriate decision-making.
	
	Refer to Appendix D: Reading Access & Sign Interpreter Accommodation Decision-Making Tool for additional guidance.

Accommodation	Administration Guidelines
	Human Readers providing the read aloud accommodation must refer to Appendix B: Test Administration Protocol for the Read Aloud Accommodation and Appendix I: Audio and Human Reader Guidelines for the English Language Arts/Literacy for administrative guidance. **Reporting Notation to Schools and Parents:** A notation will be provided on all confidential score reports to the school and parent (i.e., parent/guardian report, school roster, and district roster) stating that the student was given a reading access accommodation on the PARCC ELA/Literacy assessment and therefore, no claims should be inferred regarding the student's ability to demonstrate foundational reading skills (i.e., decoding and fluency).
ASL Video for the Mathematics Assessments for a Student Who is Deaf or Hard of Hearing	The student views an embedded video of a human interpreter for the Mathematics assessment. If a deaf student does not use ASL, an actual human interpreter and separate test setting will be required.
ASL Video of Test Directions for a Student Who is Deaf or Hard of Hearing	The student views an embedded video of a human interpreter for test directions. If a deaf student does not use ASL, an actual human interpreter and separate test setting will be required.

Table 3: Response Accommodations for Students with Disabilities

Accommodation	Administration Guidelines
Additional Assistive Technology	Guidelines will be provided in fall 2013.
Braille Note-taker	Student who is blind or has visual impairments will use an electronic braille note-taker. For PARCC assessments, grammar checker, Internet, and stored file functionalities must be turned off. The responses of a student who uses an electronic braille note-taker during PARCC assessments must be transcribed exactly as entered in the electronic braille note-taker. Responses that are not transcribed will not be scored. Transcription guidelines will be included in the *PARCC Test Administration Manual*
Calculation Device and Mathematics Tools (on Non-calculator Sessions of Mathematics Assessments)	The student uses a calculation device (e.g., four-function calculator, large key or other adapted calculator), arithmetic table (including addition/ subtraction and/or multiplication/division charts), and/or manipulatives (IEP or 504 plan must specify which device or manipulative) on the **non-calculator session** of the Mathematics test. If a talking calculator is used, the student must use headphones or

Accommodation	Administration Guidelines
	test in a separate setting. Students with visual impairments may need other mathematical tools such as a large print ruler, braille ruler, tactile compass or braille protractor. For students with a disability that severely limits or prevents their ability to perform basic calculations (i.e., addition, subtraction, multiplication or division), this accommodation allows a calculation device to be used on non-calculator Mathematics assessment sessions. **The accommodation would be permitted on test sessions for which calculators are not allowed for other students, with the exception of mathematics fluency items/tasks in grades 3-6 for which no calculation device may be used.** If a calculation device were used for those test items that exclusively measure calculation skills, the validity of the test claim (**Sub Claim E –** Mathematics fluency in grades 3-6: The student demonstrates fluency as set forth in the *Standards for Mathematical Content*) would be compromised, and the score invalid. **Guidelines are provided below for IEP and 504 teams to identify students to receive the accommodation of a calculation device on non-calculator sessions of the PARCC Mathematics assessments:** In making decisions whether to provide the student with this accommodation, IEP and 504 teams should consider whether the student has: • A disability that severely limits or prevents the student's ability to perform basic calculations (i.e., addition, subtraction, multiplication, or division), even after varied and repeated attempts to teach the student to do so. Before listing the accommodation in the student's IEP/504 plan, teams should also consider whether: • The student is unable to perform calculations without the use of a calculation device, arithmetic table, or manipulative during routine instruction; • The student's inability to perform mathematical calculations is documented in evaluation summaries from locally-administered diagnostic assessments. • The student receives ongoing, intensive instruction and/or interventions to learn to calculate without using a calculation device, in order to ensure that the student continues to learn basic calculation and fluency.

Accommodation	Administration Guidelines
Scribing or Speech-to-Text (i.e., Dictation/Transcription or Signing) for the Mathematics assessments; and for selected response (not constructed response) items on the English Language Arts/Literacy assessments[6]	The student dictates responses either verbally, using a speech-to-text device, an augmentative/assistive communication device (e.g., picture/word board), or by signing, gesturing, pointing, or eye-gazing. The student must be tested in a separate setting. Student's responses must be transcribed exactly as dictated/signed.
Scribing or Speech-to-Text (i.e., Dictation/Transcription) for constructed responses on the English Language Arts/Literacy Assessments[7]	The student dictates responses either verbally, using a speech-to-text device, augmentative/ assistive communication device (e.g., picture/word board), or by signing, gesturing, pointing, or eye-gazing. Grammar checker, Internet, and stored files functionalities must be turned off. Word prediction must also be turned off for students who do not receive this accommodation. The student must be tested in a separate setting. In making decisions whether to provide the student with this accommodation, IEP and 504 teams are instructed to consider whether the student has: • A physical disability that severely limits or prevents the student's motor process of writing through keyboarding; OR • A disability that severely limits or prevents the student from expressing written language, even after varied and repeated attempts to teach the student to do so. Before listing the accommodation in the student's IEP/504 plan, teams should also consider whether: • The student's inability to express in writing is documented in evaluation summaries from locally-administered diagnostic assessments; • The student receives ongoing, intensive instruction and/or interventions to learn written expression, as deemed appropriate by the IEP or 504 team. **Reporting Notation to Schools and Parents:** A notation will be provided on all confidential score reports to the

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[6] This accommodation applies to Evidence Based Selected Response and Technology Enhanced Constructed Response items (not Prose Constructed Response items) on the English Language Arts/Literacy assessments.
[7] This accommodation applies to Prose Constructed Responses on the ELA/Literacy assessments.

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Accommodation	Administration Guidelines
	school and parent (i.e., parent guardian report, school roster, district roster) stating that the student was provided a scribe on the PARCC ELA/Literacy assessment and therefore, no claims should be inferred regarding the student's ability to demonstrate expressive writing skills. Ongoing instruction in the foundational skills may be needed to allow students to continue to attain the important college and career-ready skill of writing. (Note: Notations will *not* be provided for students who receive a scribe on the PARCC Mathematics assessment or for selected responses only on the ELA/Literacy assessment). Please refer to Appendix C: Protocol for the Use of the Scribe Accommodation and the *PARCC Test Administration Manual,* for additional administrative guidance.[8]
Word prediction on the ELA/Literacy Performance-Based Assessment	The student uses word prediction software that provides a bank of frequently- or recently-used words onscreen as a result of the student entering the first few letters of a word. In making decisions whether to provide the student with this accommodation, IEP and 504 teams are instructed to consider whether the student has: • A physical disability that severely limits or prevents the student from writing or keyboarding responses; OR • A disability that severely limits or prevents the student from recalling, processing, and expressing written language, even after varied and repeated attempts to teach the student to do so. Before listing the accommodation in the student's IEP/504 plan, teams are instructed to consider whether: • The student's inability to express in writing is documented in evaluation summaries from locally administered diagnostic assessments. • The student receives ongoing, intensive instruction, and/or intervention in language processing and writing, as deemed appropriate by the IEP/504 plan team.

Table 4: Timing and Scheduling Accommodation for Students with Disabilities

Accommodation	Administration Guidelines
Extended Time	The student uses "extended time" to complete testing. A maximum of up one school day is allowed to complete one test session during the

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[8] Note: Appendix C: Protocol for the Use of the Scribe Accommodation will be released in late fall 2013.

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| | prescribed testing window. Students who use this accommodation must be given a quiet location in which to complete the test.

Please refer to the Test Administration Manual for additional information regarding test sessions and timing since teams will need to consider if the built-in-overage will meet the students' needs.

Refer to Appendix E for guidelines on administering the PARCC assessments with the extended time accommodation. |
|---|---|

Table 5. Allowable Accommodations for English Learners on PARCC Assessments[9]

Table 5 below lists the accommodations on PARCC assessments that are available to English learners, cross-referenced with English Language Proficiency (ELP) level of the student and other administration considerations that may impact the effective use of the accommodation. See Section 5 for how ELP is determined.

KEY for Table 5 below:

● **Highly recommended** for use by English learners at this English language proficiency level

◉ **Recommended** for use by English learners at this English language proficiency level

○ **May not be appropriate** for students at this ELP level

Accommodations	Most likely to benefit English learners at this ELP Level (Refer to Table 6)			Administration Guidelines
	Beginning	Inter-mediate	Advanced	
Extended time	●	●	●	The student uses "extended time" to complete testing. A maximum of up to one school day is allowed to complete one test session during the prescribed testing window. Students who use this accommodation must be given a quiet location in which to complete the test. Please refer to the Test Administration Manual for additional information regarding test sessions and timing since teams will need to consider if the built-in-overage will meet the students' needs.

Refer to Appendix E for guidelines on administering the PARCC assessments with the extended time |

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[9] Conflicting laws, regulations, and/or policies exist among PARCC states as to whether they will allow, require, or prohibit translations of state assessments. PARCC's policy concerning translation of the mathematics assessments will be addressed in later editions of the manual. PARCC is considering developing a **native language glossary** for the pop-up glossary that is provided as an accessibility feature for all students. The glossary will include pre-selected, non-construct relevant words.

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Accommodations	Most likely to benefit English learners at this ELP Level (Refer to Table 6)			Administration Guidelines
	Beginning	Inter-mediate	Advanced	
				accommodation.
General Administration Directions Clarified in Student's Native Language (by test administrator)	●	◉	O	The test administrator clarifies general administration instructions only. No part of the test may be clarified or translated. Students should be given ample time to process directions and ask clarifying questions. Students must be tested in a separate setting with other students needing the same accommodation to minimize distractions. Test administrators providing this accommodation should be literate and fluent in English, as well as in the student's native language.
General Administration Directions Read Aloud and Repeated as Needed in Student's Native Language (by test administrator)	●	◉	O	The test administrator reads aloud, and repeats as needed, test directions in students' native language. Students should be given ample time to process directions and ask clarifying questions. Students must be tested in a separate setting with other students needing the same accommodation to minimize distractions. Test administrators providing this accommodation should be literate and fluent in English, as well as the student's native language.
Scribe or Speech-to-Text: Responses Dictated for Mathematics Assessment in English	●	◉	O	Student dictates responses in English to Mathematics test items either to a human scribe or through speech-to-text technology. Students must be tested in a separate setting.
Word-to-Word Dictionary (English/ Native Language)	O	●	●	Student uses bilingual, word-to-word dictionary or electronic translator. Dictionaries that include definitions or pictures are not allowed. The student should be familiar with the dictionary they will use on the test. Students should be given ample time to complete the test using the accommodation. A list of bilingual word-to-word dictionaries authorized for use on PARCC assessments is available at: http://www.doe.mass.edu/mcas/testadmin/lep_bilingual_dictionary.pdf[10]

2g. Describe any practice and/or sample assessments that are available.

In order to familiarize the field with the PARCC assessments, the PARCC consortium has released a number of sample items and will be releasing practice assessments.

Sample Items

To aid educators and experts in the field and gather additional feedback for the item development process, PARCC released a set of prototypes in 2012 that were reviewed by content and assessment experts in the PARCC states. While they continue to be useful for implementation purposes, the prototypes were PARCC's "best guess" at standards-aligned items and did not undergo the extensive review process and field testing that will be carried out before any items are included on actual PARCC assessments.

In August, 2013, PARCC began releasing series of sample items. In contrast with the prototypes, the new sample items were developed through the same process as items that will populate the PARCC assessments—one that included reviews by content, bias and assessment experts in PARCC and focused on rigor of content, alignment to the standards and evidence statements and addressed bias and sensitivity review guidance. The sample items are primarily for the purposes of communications and training around the type of items one will see on the PARCC Assessments. The sample items are not intended to be a practice test, and are not meant to mirror full-length assessments that address the full range of the CCSS. Field testing for all operational PARCC items will occur in spring 2014.

Because the sample items have been developed to illustrate how the various items types are being created to measure PARCC evidence statements, and because they are first presented as PDFs, they do not appear exactly in the form they will take when included on the actual PARCC assessment online delivery platform. However, accompanying each sample item are annotations to support the user in gaining a deeper understanding of PARCC and the CCSS. When the new sample items are re-released later in 2013, they will be functional on the delivery platform. To ensure consistent stylistic elements, all PARCC assessment items are being written to adhere to criteria addressed in the PARCC Style Guides.

PARCC sample items in ELA/Literacy can be found on the PARCC website here.
PARCC sample items in Mathematics can be found on the PARCC website here.

Practice Tests

PARCC will also release practice tests. Through its Field Test Assessment Administration contract, PARCC will develop practice tests for the Performance-Based Assessment component of ELA/literacy and the End-of-Year component for mathematics, to be available in spring 2014. This field test practice test is intended to be available six weeks prior to the opening of the fall 2014 assessment administration window. For the administration of operational assessments, PARCC will release a practice test for each content area and grade level/course comprised of Performance-Based and End-of-Year items and tasks, to be administered in both computer-based and paper-based modes. The practice tests will be made available through the Partnership Resource Center (PRC) at least six weeks prior to the opening of each administration window. The computer-based practice tests will be delivered using the PARCC assessment delivery platform. Paper-based practice tests will be made available as PDFs or a similar electronic file format.

The practice test in each content area will include a broad range of item and task types and functionalities that students will experience on PARCC assessments, and require approximately 60 minutes for students to

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complete. Released items and tasks from PARCC operational administrations will be used to populate the practice test each year. Practice tests will also include newly developed items introducing any innovation or functionality that has not appeared on previous PARCC assessments. For the computer-based tests, machine-scored items must be scored and scored responses must be provided to the student instantaneously after the student submits responses to all items on the practice test. For both computer- and paper-based practice tests, local educators will receive scoring materials, including answer keys, rubrics, and benchmarked papers, so student responses can be scored locally. Students will also be able to print or electronically save their responses to all items/tasks so that their work can be scored locally by teachers based on the scoring materials. The practice tests will be updated each year to incorporate items with new functionalities.

3a. If applicable, describe the computer-based option(s) for the administration of the assessments.

An essential element of the PARCC assessment system is the technology infrastructure that the Partnership is building to securely and reliably deliver next-generation computer-based assessments and manage PARCC data. The PARCC Technology Platform includes the following components:

A. Assessment Delivery Components (Test Client): The PARCC Assessment Delivery Platform will provide complete functionality for delivery and management of all PARCC assessments (including Formative, Diagnostic, Speaking and Listening, Mid-Year, Performance-Based, and End-of-Year Assessments). It will enable administrators to import student information, register and schedule students for assessments, deliver assessments to students –including required accommodations and accessibility features, temporarily store assessment results, and transfer test data to scoring applications.

B. Assessment Content Management Components (Item Bank): The PARCC Assessment Content Repository will provide complete functionality to manage and store all Assessment Content which the Partnership has and will develop through separate procurements, including but not limited to: test specifications, test forms, and test items, including all associated metadata and media assets. This component enables administrators the ability to import test specifications, test forms, and test items from content developers and other repositories, produce content packages, export tests to the Assessment Delivery Platform, provide repository management of all stored items, and support discovery through the Partnership Resource Center.

C. Data Management Components (Data Warehouse): The Data Management Component provides the technical infrastructure necessary for PARCC to ensure secure, reliable, flexible, and scalable digital data storage, management, reporting, and analysis for the Partnership and its member states. Data management includes a PARCC Data Warehouse with the functionality for post-assessment longitudinal storage of assessment data, statistical and psychometric analysis and reporting of assessment information. This component provides long-term storage and management of assessment results, as well as interfacing with the Reporting modules, Assessment Delivery Platform, and Shared Technology Services components of the PARCC Technology Platform. In addition, the Data Warehouse shall interface with state systems to enable administrators to export subsets of the data to state data warehouses, and will exchange data with external test analysis systems as approved by PARCC states.

D. Reporting Components (Reporting Engine): The Reporting Engine will enable the static and dynamic generation of Consortium-level reports from data in the Data Warehouse. It will enable the Partnership to

establish multiple reporting templates for a range of purposes and package data from the Data Warehouse into pre-established formats for secure export to PARCC states and other approved stakeholders.

E. Shared Technology Services: The Shared Technology Services are common services that are utilized by multiple components of the PARCC Technology Platform. These services provide multiple capabilities such as staff and administrator access, user management, monitoring and logging of functions, and systems testing capabilities. The following Shared Technology Services will support the overall PARCC Technology Platform;

- Authentication/Single Sign On/User Identity Management
- Logging and Audit
- System Monitoring and Alerting
- Common Identifier System
- Interoperability Conformance Testing

F. Partnership Resource Center: The Partnership Resource Center will serve as PARCC's digital library and web-services based distribution system for PARCC-developed content including PARCC assessment guidance, professional development modules, PARCC Model Content Frameworks, training materials, and released assessment items.

3b. If applicable, describe the technological specifications for the administration of the assessments. This should include specifications for computer hardware, input devices, security requirements, bandwidth, web browser requirements, and platform software.

PARCC has assembled the following technology guidelines to inform schools and districts as they make technology decisions to best meet the instructional and assessment needs of their students. The most up-to-date information is maintained on the PARCC website here.

These guidelines include two sets of guidance regarding technical specifications:

1. **Minimum Specifications**
   Minimum Specifications address the oldest operating systems and lowest levels of hardware capacity that can reasonably be compatible with PARCC computer-based assessments in 2014-2015.
   - Minimum Specifications apply to existing school technology inventories.
   - Computers meeting the Minimum Specifications can be considered as satisfying PARCC guidelines for **2014-2015**.

   Considerations regarding computers meeting, but not exceeding, minimum specifications:
   - Computers with these minimum specifications may *not* be adequate beyond the second year of PARCC assessments in **2015-2016**. PARCC recommends that schools upgrade or replace computers that have older operating systems and lower memory to raise their capacity to Recommended Specifications levels as soon as possible.
   - Computers that meet only the Minimum Specifications will be compatible with the PARCC assessment delivery platform, but may be more likely to experience slower performance than higher capacity computers.

2. **Recommended Specifications**

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Recommended Specifications outline the levels of computer and network capacity that are more likely to meet growing demands for school technology that supports learning, assessment, and administrative uses simultaneously across classrooms.

- Recommended Specifications apply to both existing inventory and new hardware purchases.
- Computers meeting the Recommended Specifications can be expected to satisfy PARCC guidelines through the **2018-2019** school year.

Bandwidth Recommendations for PARCC Operational Assessments

PARCC has developed a tiered bandwidth recommendation that provides schools with guidance around different uses of school networks during assessments. These tiers include a very low bandwidth level that requires local caching of test content ahead of test day, a minimum level for networks that do not pre-load test content, and a bandwidth level that will support simultaneous network uses for testing, instruction, and other required day-to-day school operations.

Minimum bandwidth requirements account for the level of connectivity needed to administer next generation PARCC assessment items that include complex student interactions, extended constructed responses, and embedded multimedia – although individual sessions of the Math and English Language Arts/Literacy assessments may require less than the published minimum bandwidth. Schools with low bandwidth and/or large numbers of simultaneous users, including instructional and other non-assessment uses taking place concurrent with testing, are strongly encouraged to utilize PARCC's options for proctor caching, a strategy that will significantly reduce bandwidth demand for testing. Similarly, test forms including computer-delivered accommodations and accessibility features are anticipated to require more bandwidth and therefore caching for accommodated forms is strongly encouraged. PARCC's assessment delivery platform provider, Pearson, has created the document Proctor Caching: Using Caching Strategies to Better Manage Network Traffic Demand During Online High-stakes Assessments as a guide to assist schools in whether to implement caching for PARCC assessments.

	Minimum With Caching	Minimum Without Caching	Recommended for Assessment + Instruction
External Connection to the Internet	5 kilobits per second (kbps)/student	50 kilobits per second (kbps)/student	100 kilobits per second (kbps)/student or faster

Minimum Bandwidth - With Caching

Schools that wish to implement **Proctor Caching as a low-bandwidth solution for assessment administration should plan to have 5 kilobits per second (kbps) of available bandwidth in their external connection to the Internet for each simultaneous test-taker.** With proctor caching, a school or district's internal wired or wireless networks will distribute test content to student computers, but local internal network connection speeds may vary based on wireless network configurations or other factors. The Proctor Caching guide, (http://www.parcconline.org/field-test-technology) will help schools or districts configure caching to maximize bandwidth where local network variations exist.

Minimum Bandwidth - Without Caching

Schools that will have students connecting directly to the Internet during test administration should plan to have **50 kilobits per second (kbps) of available bandwidth for each simultaneous test-taker.** The fewer students that are testing at the same time, the lower the bandwidth demand will be.

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Recommended Bandwidth for Assessment + Instruction

PARCC recognizes that school networks must support a wide range of services and technology-rich educational offerings both during and outside of PARCC assessment windows. In response to these realities, PARCC is modeling the higher recommended bandwidth guidance of the State Educational Technology Directors Association in its May 2012 publication *The Broadband Imperative: Recommendations to Address K-12 Education Infrastructure Needs* (http://www.setda.org). These higher bandwidth recommendations ensure schools have the adequate bandwidth needed to support instruction, assessment, professional development, and administrative processes.

Proctor Caching as a Low Bandwidth Solution

In schools and districts with very limited Internet bandwidth conditions or internal network limitations, caching provides a secure option for delivering interactive computer-based assessments. Caching involves pre-downloading as much of the encrypted test content prior to testing as possible, staging it on a computer (or multiple computers) in a district network location(s), and distributing it to student test-taking computers from the caching server. These procedures will help to avoid potential bottlenecks from testing traffic due to slower network switches, a shared Internet connection, or any other constraint from large-scale assessment traffic.

PARCC is making available to schools and districts a caching option known as "Proctor Caching" as part of the Pearson TestNav 8 delivery platform that PARCC will use for the first PARCC operational administration in 2014-2015. With proctor caching, a test administrator downloads test content only once from the Pearson server to the district or school. Encrypted assessment content resides on a computer within the school network, and is delivered during testing to each student's computer, where TestNav 8 then decrypts and displays the test content for students. Only the local network is used for delivering test content while the student is testing to help protect from Internet delays or other networking bottlenecks.

For the PARCC operational administration in 2014-2015, schools should plan on bandwidth capacity equivalent to 5 kbps per simultaneous test-taker to implement proctor caching.

SECURITY REQUIREMENTS

Eligible devices of any type (desktop, laptop, netbook, tablet, thin client) or operating system (Windows, Mac, Linux, iOS, Android, Chrome) must have the administrative tools and capabilities to "lock down" the device to temporarily disable features, functionalities, and applications that could present a security risk during test administration, and should not prevent a PARCC secure browser or other test software to be determined from entering the computer into lock down mode. Features that will need to be controlled during test administration include, but are not limited to, unrestricted Internet access, cameras (still and video), screen capture (live and recorded), email, instant messaging, Bluetooth connections, application switching, and printing.

The operating systems listed here as approved for PARCC assessments meet this security requirement, but provide different mechanisms for managing user security settings at the individual device and/or enterprise levels. School technology administrators should be familiar with the particular requirements of the systems they will be using for PARCC assessments to ensure test security is maintained.

Schools will be able to test the security lock down settings of their systems as part of the Infrastructure Trial Tool that PARCC will make available to schools by January 2014 for the PARCC Field Test and by August 2014 for the Year One Operational Assessment.

Web Browser Requirements

Web browser requirements for the 2014-2015 PARCC operational assessments are driven by browser compatibility with the Pearson TestNav 8 assessment delivery platform. Compatible browsers and versions are maintained at: www.PearsonOnlineTesting.com/TN8requirements.

DEVICE SPECIFICATIONS

Desktops, laptops, netbooks (Windows, Mac, Chrome, Linux), thin client, and tablets (iPad, Windows, and Android) will be compatible devices provided they meet the established hardware, operating system, and networking specifications—and are able to address the security requirements described in the Security Considerations section of the Guidelines.

Desktop, Laptop, Netbook, and Thin Client[1]/VDI Computers		
Operating System	**Minimum Specifications[2]**	**Recommended Specifications**
Windows	[3,4]Windows XP – Service Pack 3	Windows 7 or newer
Mac OS	Mac OS 10.5	Mac OS 10.7 or newer
Linux	Ubuntu 9-10, Fedora 6	Linux: Ubuntu 11.10, Fedora 16 or newer
Chrome OS	Chrome OS 19	Chrome OS 19 or newer

Tablets		
Operating System	**Minimum Specifications**	**Recommended Specifications**
Android .	Android 4.0 (with 512 MB RAM or greater)	Android 4.0 or newer (with 1GB RAM or greater)
Apple iOS	iPad 2 running iOS 6 (with 512 MB RAM or greater)	iPad 2 or newer running iOS6 or newer (with 512 MB RAM or greater)
Windows	[6]Windows 8 (with 512 MB RAM or greater)	[6]Windows 8 or newer (with 1GB RAM or greater)

Additional Specifications for Desktop, Laptop, Netbook, and Thin Client[1]/VDI Computers

	Minimum Specifications[2]	Recommended Specifications
Memory	512 MB of RAM	1 GB RAM or greater
Connectivity	Computers must be able to connect to the Internet via wired or wireless networks.	Computers must be able to connect to the Internet via wired or wireless networks.
Screen Size	9.5 inch screen size or larger	9.5 inch screen size or larger
Screen Resolution	1024 x 768 resolution[5] or better	1024 x 768 resolution[5] or better
Input Device Requirements	Keyboard - wired or wireless/Bluetooth Mouse or Touchpad or Touchscreen	Keyboard - wired or wireless/Bluetooth Mouse or Touchpad or Touchscreen
	The input device must allow students to select/deselect, drag, and highlight text, objects, and areas. The input device must allow students to enter letters, numbers, and symbols and shift, tab, return, delete, and backspace. To meet security guidelines, each Bluetooth/wireless keyboard must be configured to pair with only a single computer during assessment administration. Other assistive technologies may be needed for students requiring accommodations. PARCC will release additional guidance for the use of assistive technology devices for field testing by December 2013. PARCC has released the PARCC Accessibility Features and Accommodations, which is available at: http://www.parcconline.org/parcc-accessibility-features-and-accommodations-manual	
Headphone/Earphone/ Earbud and Microphone Requirements	Headphones/Earphones/Earbuds Microphone	Headphones/Earphones/Earbuds Microphone
	Headphones/earphones/earbuds are only required for English Language Arts/Literacy testing sessions, not mathematics testing sessions (except for students who need them for accommodations purposes such as text to speech). Microphones are required for all students taking the Speaking and Listening Assessment. Some student accommodations may also require microphones (e.g., speech to text, voice controls) for other parts of the PARCC assessments. The Speaking and Listening Assessment will be implemented with the 2015-2016 assessments.	

Additional Specifications for Desktop, Laptop, Netbook, and Thin Client[1]/VDI Computers

Additional Guidance	[1] Each computer operating in a thin client environment must meet or exceed minimum hardware specifications, as well as bandwidth and security requirements. [2] Computers meeting only the minimum specifications for the 2014-2015 assessment are not likely to be compatible beyond the 2015-2016 assessment. PARCC recommends that schools upgrade from the oldest operating systems and lowest memory levels as soon as possible. [3] Windows XP will no longer be supported by Microsoft after April 8, 2014, presenting security and support risks for schools. (http://windows.microsoft.com/en-US/windows/end-support-help) [4] Computers running Windows XP-Service Pack 3 may require a web browser other than Internet Explorer due to HTML5 compatibility limitations. [5] Computers must accommodate the 1024 x 768 screen resolution minimum without panning. PARCC recognizes that some netbook computers may have screen resolutions slightly less than the 1024 x 768 minimum, yet may meet all other minimum requirements. Depending on netbook model specifics, school technology administrators may be able to reset screen resolution to meet PARCC guidelines. By December 2013, following final test design, PARCC will establish a means for schools to evaluate if particular netbook devices are able to display PARCC assessment items without requiring students to scroll or pan.

Additional Specifications for Tablets

	Minimum Specifications	Recommended Specifications
Memory	By operating system	By operating system
Connectivity	Computers must be able to connect to the Internet via wired or wireless networks.	Computers must be able to connect to the Internet via wired or wireless networks.
Screen Size	9.5 inch screen size or larger[7]	9.5 inch screen size or larger[7]
Screen Resolution	1024 x 768 resolution[5] or better	1024 x 768 resolution[5] or better
Input Device Requirements	Keyboard - wired or wireless/Bluetooth Touchscreen or Mouse	Keyboard - wired or wireless/Bluetooth Touchscreen or Mouse

Additional Specifications for Tablets		
	Due to the onscreen space occupied by a tablet's virtual keyboard, PARCC assessments will require external keyboards for test takers using tablets so as not to limit or obscure the view of test item content and related functionalities when text input is required. Research studies to be conducted by PARCC in Spring 2013 are intended to yield data on students' use of virtual versus external keyboards. PARCC will refine this guidance as needed based on these results. External keyboards must allow students to enter letters, numbers, and symbols and shift, tab, return, delete, and backspace. Tablet touchscreen interfaces can be used for student interactions with the assessments other than text input, including to select/deselect, drag, and highlight text, objects, and areas. To meet security guidelines, each Bluetooth/wireless keyboard must be configured to pair with only a single computer during assessment administration. Other assistive technologies may be needed for students requiring accommodations. PARCC will release additional guidance for the use of assistive technology devices for field testing by December 2013. PARCC has released the PARCC Accessibility Features and Accommodations, which is available at: http://www.parcconline.org/parcc-accessibility-features-and-accommodations-manual	
Headphone/Earphone/ Earbud and Microphone Requirements	Headphones/Earphones/Earbuds Microphone	Headphones/Earphones/Earbuds Microphone
	Headphones/earphones/earbuds are only required for English Language Arts/Literacy testing sessions, not mathematics testing sessions (except for students who need them for accommodations purposes such as text to speech). Microphones are required for all students taking the Speaking and Listening Assessment. Some student accommodations may also require microphones (e.g., speech to text, voice controls) for other parts of the PARCC assessments. The Speaking and Listening Assessment will be implemented with the 2015-2016 assessments.	
Additional Guidance	[6]PARCC has not yet evaluated the compatibility of Windows RT for 2014-2015. Further information will be issued on Windows RT in Version 4.0 of the PARCC Guidelines. [7]Smaller tablets (screen size less than 9.5"), e-readers, and smart phones will not be supported and will not be compatible with PARCC assessments for 2014-2015.	

3c. Describe any available training and technical support that is available for the computer-based assessments.

Trainings for the operational administration will include different types of module trainings, which may include but are not limited to trainings for LEA Test Coordinators, School Test Coordinators, Test Administrators/Proctors, LEA and School Technology Coordinators as well as cover information about the student registration procedures, administration protocols and security policies, protocols, and procedures, the technology delivery system, and accessibility and accommodations policies and protocols. The vendor will also have a dedicated call center to answer questions from districts or schools on any questions pertaining to test administration.

In regards to the training for the field test, PARCC, through its vendor Pearson, intends to hold several regional training opportunities in Arizona. The goals of these regional trainings are to help districts become familiar with the PARCC Field Test delivery platform, show districts how to perform an infrastructure trial to ensure schools are ready, and to show districts and schools how to load students into the delivery platform system for online testing. These workshops will take place in Phoenix, Tucson, and Flagstaff. There are also a few Site Technical Visits open to Arizona if there is a school or district that needs more personalized attention to be up and running in time for the field test. These are not yet scheduled in Arizona. Webinars will be available to districts and schools on the following topics: Setting Up an Infrastructure Trial, Technology Setup, Test Administrator Training, Accommodations with Online Testing, and Emerging Technologies and Security with Online Testing. The vendor also has a dedicated call center to answer questions from districts or schools on any field test related questions.

3d. If the assessment is computer-based, is there a paper-pencil option?
The expectation is that all students will take the PARCC assessments on a computer. Among many other advantages, computer-based testing will be engaging for students, result in lower costs and ultimately allow for faster scoring and reporting of results. However, the PARCC assessments will be available in paper and pencil format for students with disabilities whose Individualized Education Programs require it. In addition, there will also be a large print paper-pencil version and a braille form of the PARCC assessments for students with disabilities that impact their vision. PARCC assessments will also be available in paper and pencil format for schools that have gained approval for paper and pencil administration from their State Educational Agency (SEA). It is PARCC's intent to have 97% of tested students to take PARCC assessments through computer-administered modes within three years.

4a. Describe the total anticipated testing time for each assessment (mathematics, reading, and writing) by grade level. If computer-based, include the calculated student to device ratio.

Estimates of summative testing time by session and grade level are found in the PARCC Assessment Administration Guidance released in March 2013. This document also includes the number of days over which schools may administer the assessments (testing window), and some "rule of thumb" guidance for the number of computer devices needed to administer the assessments. Testing time estimates may be adjusted after the PARCC field test in spring 2014. The Assessment Administration Guidance can be accessed here: Assessment Administration Guidance. A high-level summary of suggested student-to-device ratios and estimated testing time by grade level and content area appear below.

"Rule of Thumb" Guidance on Number of Devices Needed to Administer Computer-Based Tests

School type	<u>Minimum</u> number of devices	<u>Recommended</u> number of devices
For a school with three tested grades (K-5, 6-8, 9-12)	One device for every two students in the largest tested grade	One device per student for the largest tested grade
For a school with six tested grades (K-8)	One device per student for the largest tested grade	One device per student for the two largest tested grades

Estimated Time on Task by Grade and Session

Note: estimated time on task refers to an estimate of the amount of time the typical student will need to complete each session. While it is anticipated that most students will complete the test sessions within these estimated times, all participating students will have a set amount of additional time for each session to provide them with ample time to demonstrate their knowledge.

| Grade | | Performance-Based Component | | | | | | End-of-Year Component | | | | | Summative Total |
| | | ELA/Literacy | | | Math | | Total | ELA/Literacy | | Math | | Total | |
		Literary Analysis	Research	Narrative	Session 1	Session 2		Session 1	Session 2	Session 1	Session 2		
3	Estimated Time on Task (minutes)	50	60	40	50	50	250	60	60	55	55	230	8 hours

| Grades | | Performance-Based Component | | | | | | End-of-Year Component | | | | | Summative Total |
| | | ELA/Literacy | | | Math | | Total | ELA/Literacy | | Math | | Total | |
		Literary Analysis	Research	Narrative	Session 1	Session 2		Session 1	Session 2	Session 1	Session 2		
4-5	Estimated Time on Task (minutes)	80	80	50	50	50	310	70	70	55	55	250	9 hours, 20 minutes

| Grades | | Performance-Based Component | | | | | | End-of-Year Component | | | | | Summative Total |
| | | ELA/Literacy | | | Math | | Total | ELA/Literacy | | Math | | Total | |
		Literary Analysis	Research	Narrative	Session 1	Session 2		Session 1	Session 2	Session 1	Session 2		
6-8	Estimated Time on Task (minutes)	80	85	50	50	50	315	70	70	55	55	250	9 hours, 25 minutes

Grades		Performance-Based Component						End-of-Year Component					Summative Total
		ELA/Literacy			Math		Total	ELA/Literacy		Math		Total	
		Literary Analysis	Research	Narrative	Session 1	Session 2		Session 1	Session 2	Session 1	Session 2		
9 -10 Alg I/ Math I Geo/ Math II	Estimated Time on Task (minutes)	80	85	50	50	50	315	70	70	65	65	270	9 hours, 45 minutes

Grade		Performance-Based Component						End-of-Year Component					Summative Total
		ELA/Literacy			Math		Total	ELA/Literacy		Math		Total	
		Literary Analysis	Research	Narrative	Session 1	Session 2		Session 1	Session 2	Session 1	Session 2		
11 Alg II / Math III	Estimated Time on Task (minutes)	80	85	50	65	65	345	70	70	55	55	250	9 hours, 55 minutes

4b. Identify the anticipated testing window for each assessment by grade level.

The following represent PARCC's proposed consortium-wide windows for the first year of operational assessment administration. Block administration is available to high school students who take ELA/literacy or mathematics courses on a condensed block schedule. Because the PARCC assessment components are intended to be administered after approximately 75% (PBA) and 90% (EOY) of instructional time, the consortium-wide windows are broad enough to accommodate the range of school year start dates across the consortium, so that students across all states are being assessed after approximately the same amount of instructional time.

Fall/Winter Block Administration	
PBA	November 3, 2014 to December 19, 2014
EOY	December 1, 2014 to January 23, 2015
Spring Regular Administration	
PBA	February 16, 2015 to April 10, 2015
EOY	April 6, 2015 to May 29, 2015

The administration window dates for Spring Block Administration is currently under discussion by PARCC State Leads.

For **computer-based assessments**, schools will have a maximum of 20 consecutive school days to administer the Performance Based Assessment (PBA) component and a maximum of 20 consecutive school days to administer the End of Year Assessment component (EOY), within the windows described above. It is important to note, however, that while the testing windows will span 20 days for each component, schools will be able to complete administration of the tests in fewer days, if they have sufficient capacity to administer assessments to large numbers of students simultaneously. For **paper-based assessments**, schools will have 10 consecutive school days to administer PARCC assessments.

4c. Describe the training needs and available training for teachers and administrators pertaining to the administration of the assessments.

As stated in the answer to question 3c, there are several ways for test administrators to be trained on how to administer the assessments. For school based test proctors and administrators, the most relevant training would be the webinars, the test administration manuals (paper/pencil and online), and the test coordinator manuals (paper/pencil and online).

Webinars will be available to districts and schools on the following topics: Setting Up an Infrastructure Trial, Technology Setup, Test Administrator Training, Accommodations with Online Testing, and Emerging Technologies and Security with Online Testing.

The test administration and test coordinator manuals will be posted online in early January 2014.

5a. Describe the standards setting process.

Standard setting for the PARCC assessments will be conducted in summer 2015. The major milestones for this work are as follows:

- PARCC Governing Board and Advisory Committee on College Readiness will approve specific standard setting method(s) in June 2014.
- A field trial (dry run) of the standard setting will be conducted in February – March 2015.
- Cut scores for terminal high school assessments[10] will be set in July-August 2015 and reviewed by the Governing Board and the Advisory Committee on College Readiness for approval by mid-August 2015.
- Cut scores for other grades will be set in August 2015 and reviewed by the Governing Board for approval by mid-September 2015[11].

Standard setting panels for the terminal PARCC high school assessments will include both K-12 and higher education representatives. Both empirical data and content expert judgment will be used during the standard setting process. The following research studies will inform the cut scores:

1. Benchmark study: Benchmark data indicating percentage of college- and career-ready students in PARCC states will be gathered from various sources including College Board and ACT admissions and placement tests, NAEP, ASVAB, and relevant international assessments to inform the setting of rigorous cut scores for PARCC that have external validity.

2. Performance of post-secondary students study: Students enrolled in credit bearing entry level or technical courses will take the terminal PARCC high school assessments in fall 2014. They will be followed throughout the fall semester to determine the relationship between success in postsecondary courses and performance on PARCC.

3. Postsecondary educators' judgment study: Higher education faculty and admissions/placement specialists will review PARCC items and indicate how students would need to perform on them in order to be academically ready for postsecondary work.

4. Field trial of standard setting method: A field trial (dry run) of the approved standard setting method will be conducted by K-12 and higher education representatives in February – March, 2015, using data from the research studies listed above.

In addition to the studies listed above, a longitudinal study will be conducted through spring 2017 to examine the validity of PARCC assessments in predicting postsecondary success as defined in PARCC's CCR determination policy. (This study will be conducted with the approval of member states and in accordance with the PARCC Data Privacy and Security Policy.)

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[10] Grade11 ELA, Algebra II, and Integrated Math III
[11] The cut scores for these grades will be set in a way that they are coherent with those of the high school terminal assessments.

5b. If already established, describe the performance levels and the performance level descriptors for each category.

PARCC will report student achievement on the PARCC assessments using five performance levels. No names for the levels have been proposed at this time. Level 4 is the proposed level for earning a College- and Career-Ready (CCR) Determination.

The PARCC CCR Determinations in ELA/literacy and mathematics describe the academic knowledge, skills, and practices in English language arts/literacy and mathematics students must demonstrate to show they are able to enter directly into and succeed in entry-level, credit-bearing courses and relevant technical courses in those content areas at two- and four-year public institutions of higher education.

PARCC has established two sets of performance level descriptors (PLDs).

1. **Policy-level PLDs** include both policy claims, which describe the educational implications for students who attain a particular performance level on the PARCC assessments, as well as general content claims, which describe in broad terms the knowledge, skills, and practices students performing at a given performance level are able to demonstrate at any grade level. PARCC's policy-level PLDs may be found here.

2. **Grade- and Subject-Specific PLDs** further articulate the knowledge, skills, and practices that students performing at a given level should be able to demonstrate in each content area at each grade level. The grade- and subject-specific PLDs are intended to serve several purposes, including the following:
   a. Communicate expectations to educators about what types of performances will be necessary at the high school-level for students to demonstrate that they are college- and career-ready (CCR) or making adequate progress to become CCR;
   b. Communicate expectations to educators about what types of performance will be necessary in grades 3-8 for students to demonstrate that they are academically prepared to engage successfully in further studies in each content area;
   c. Provide information to local educators for use in developing curricular and instructional materials;
   d. Serve as the basis for PARCC standard setting in summer 2015; and
   e. Inform item and rubric development for the PARCC assessments.

   PARCC's grade- and subject-specific PLDs may be found here.

5c. Describe the score reports available to teachers, students and parents. The description should include:
   a. **How the reports illustrate a student's progress on the continuum toward college and career readiness, grade by grade, and course by course; and;**

b. **How the reports are instructionally valuable, easy to understand by all audiences, and are delivered in time to provide useful, actionable data to students, parents, and teachers.**

PARCC will produce score reports for students in addition to producing reports at the following levels: Consortium, State, District, School, and School Roster. PARCC's Ad-hoc Committee on Score Reporting (which includes an Arizona representative) is currently finalizing reporting specifications that will be used for score reports. Please see draft specifications below, which outline the proposed reporting metrics at each level of reporting. To help develop the design of score reports, PARCC will conduct the Score Report Prototype Study, as part of the Technology Bundle Contract. Under this study, PARCC will create draft score reports and conduct focus groups with parents and teachers. The results of the focus groups will be used to finalize the design of PARCC's score reports.

PARCC student level reports will show the student's performance level and scale score, indicating a student's progress along the performance continuum and showing whether students have earned the College and Career Ready Determination, or for earlier grades, whether they are prepared to engage successfully in further studies in the content area. The PARCC student reports will also contain item level information, including, as available, released items. While PARCC is still finalizing these plans, it is intended that any released items would be linked to a student report, thereby providing rich information to help parents and educators better understand students' performance. To facilitate reporting, released and unreleased items will be characterized by a standard-length description based on the knowledge and skills needed to correctly answer the problem.

It is a PARCC priority to ensure that score reports contain instructionally useful information. To this end, student level reports will also contain sub-claim scores, which will help educators better understand student's performance in the specific sub-claim areas (please see PARCC's sub-claims below).

PARCC will also produce a set of tools to help parents and educators understand PARCC's score reports. This includes score interpretation guides, webinars on how to read and use score reports, and report translations available for up to 10 languages.

Draft Reporting Metrics and Comparisons by Reporting Level (by grade/course and content area)

PARCC Level Reports (i.e., results across the consortium)			
Reporting Metrics	**PARCC**	**By State**	**By Sub-Group**
Percent at each Performance Level	✓	✓	✓
Average Scale Score	✓	✓	✓
Subscale/Domain Scores	✓	✓	✓
Item Information	✓	✓	✓
Multi-Year Score Information	✓	✓	✓
Growth Metric	✓	✓	✓

State Level Reports (i.e., state by state results)				
Reporting Metrics	Own State	By Sub-Group	Comparison to PARCC	Comparisons to Other States
Percent at each Performance Level	✓	✓	✓	✓
Average Scale Score	✓	✓	✓	✓
Sub-Claim Scores	✓	✓	✓	
Item Information	✓	✓	✓	
Multi-Year Score Information	✓	✓	✓	✓
Growth Metric	✓	✓	✓	✓

District Level Reports (i.e., district by district results)						
Reporting Metrics	Own District	By Sub-Group	Comparisons to Own State	Comparison to PARCC	Comparisons to Comparable Districts within Own State	Comparisons to Comparable Districts Across PARCC
Percent at each Performance Level	✓	✓	✓	✓	✓	✓
Average Scale Score	✓	✓	✓	✓	✓	✓
Sub-Claim Scores	✓	✓	✓	✓		
Item Information	✓	✓	✓			
Multi-Year Score Information	✓	✓	✓	✓		
Growth Metric	optional	optional	optional	optional	optional	optional

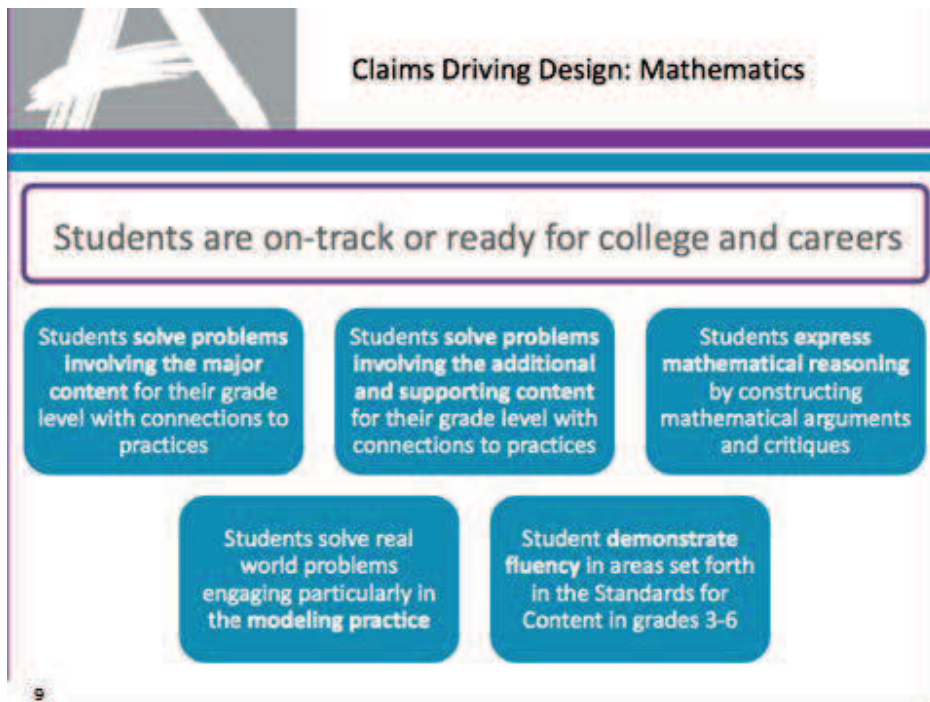| School Level Reports (i.e. school by school results)						
Reporting Metrics	Own School	By Sub-Group	Comparisons to Own District	Comparisons to Own State	Comparisons to Comparable Schools within Own State	Comparisons to Comparable Schools Across PARCC
Percent at each Performance Level	✓	✓	✓	✓	✓	✓
Average Scale Score	✓	✓	✓	✓	✓	✓
Sub-Claim Scores	✓	✓	✓	✓		
Item Information	✓	✓	✓	✓		
Multi-Year Score Information	✓	✓	✓	✓		
Growth Metric	optional	optional	optional	optional	optional	optional

Student Roster Reports (i.e., student reports aggregated into school wide rooster report)

Reporting Metrics	Student	Comparisons to Own School	Comparisons to Own District	Comparisons to Own State
Performance Level	✓	✓	✓	✓
Scale Score	✓	✓	✓	✓
Sub-Claim Scores	✓	✓	✓	✓
Item Information	✓	✓		
Multi-Year Score Information	✓	✓	✓	✓
Growth Metric	optional	optional	optional	optional

Student Level Reports – Parents (i.e., individual student reports)

Reporting Metrics	Himself/ Herself	Comparisons to Level 4 Students	Comparisons to PARCC	Comparisons to Own State	Comparisons to Own District	Comparisons to Own School
Performance Level	✓		✓	✓	✓	✓
Scale Score	✓		✓	✓	✓	✓
Sub-Claim Scores	✓	✓		✓	✓	✓
Item Information	✓	✓		✓	✓	✓
Multi-Year Score Information	✓					
Growth metric	optional		optional	optional	optional	optional

Claims and Sub-Claims for ELA

Claims Driving Design: ELA/Literacy

Students are on-track or ready for college and careers

Students read and comprehend a range of sufficiently complex texts independently

Students write effectively when using and/or analyzing sources.

Students build and present knowledge through research and the integration, comparison, and synthesis of ideas.

Reading Literature

Reading Informational Text

Vocabulary Interpretation and Use

Written Expression

Conventions and Knowledge of Language

Claims and Sub-Claims for Mathematics

Claims Driving Design: Mathematics

Students are on-track or ready for college and careers

Students **solve problems** involving the major content for their grade level with connections to practices

Students **solve problems** involving the additional and supporting content for their grade level with connections to practices

Students **express** mathematical reasoning by constructing mathematical arguments and critiques

Students solve real world problems engaging particularly in the **modeling practice**

Student **demonstrate fluency** in areas set forth in the Standards for Content in grades 3-6

5d. Describe the process and timelines for scoring the assessments. Include computer-based and pencil / paper processes and timelines, as applicable.

Three (3) different types of scoring procedures will be employed for the PARCC assessments: key-based, rule-based (e.g., gridded response, short constructed response, constrained constructed response) and handscored (e.g., essays and performance-based tasks).

For key-based scoring, PARCC representatives will review the student responses and verify the scoring keys for each item. The Operational Assessment Contractor will then be responsible for creating a draft and subsequent updates of the scoring keys with review and final approval by the Partnership.

For rule-based scoring, a set of technology enhanced items that employ formats such as gridded-response, short constructed response and other constrained constructed response formats will be scored according to rules provided by PARCC and/or the Item Development Contractor.

Handscoring refers to the processes necessary for determining the rating of a student's response on the writing prompts or on the performance-based tasks in ELA/literacy and mathematics. Prose Constructed Response (PCR) items in ELA/Literacy and Type II and Type III items in mathematics will require Handscoring. Trained professional readers shall score written answers using criteria established by Contractor and Partnership educator scoring and content area experts. PARCC readers shall have a college degree and shall qualify to score PARCC tests by accurately scoring a series of training and qualifying papers. The readers shall be monitored carefully and continuously throughout scoring for their accuracy (validity) and reliability (inter-rater agreement). Readers shall be given scored papers that have been previously approved by the Partnership to determine the accuracy of their scoring (validity responses).Eighty percent of the student responses shall be scored by one reader. Twenty percent of the student responses shall be scored by two readers, working independently. If the two readers' scores don't match (exact scores for 2-point and 3-point questions and adjacent scores for 4- and 6-point questions), a third and sometimes a fourth reader shall be used.

Additional details about scoring, including range finding and requirements for scorer training and monitoring, can be found in PARCC's Operational Assessment RFP here.

5e. Describe how scores on the assessments will be comparable to other common college/career ready assessments.

PARCC will be holding a meeting in January 2014 with the Smarter Balanced Assessment Consortium (SBAC) to discuss research studies to investigate the comparability between the two assessment systems. In addition, PARCC will be using benchmark data from several assessments including College Board and ACT admissions and placement tests, SBAC, NAEP, and relevant international assessments to inform the setting of rigorous cut scores that have external validity. This will allow – at the very least – comparisons between PARCC performance standards with similar benchmarks mentioned above.

6a. Describe how the development of the assessments will adhere to the principles of universal design, so that the testing interface, whether paper- or technology-based, does not impede student performance.

Universal design emphasizes that in order to increase access, assessment designers cannot use a "one size fits all" approach, but must make available opportunities for choice and create multiple alternatives and approaches for individuals to express their knowledge. Using these principles, item writers consider the full range of students in the assessment population and develop items, tasks, and prompts that measure the desired construct for the greatest number of students without the need for accommodation or adaptation. Guided by universal design, assessment developers design the assessment to meet the specific needs of as many students as possible and minimize the number of necessary accommodations, while acknowledging that the need for accommodations cannot be eliminated entirely.

PARCC has included the following universal design requirements for item development in the *PARCC Accessibility Guidelines*:

- The item or task takes into consideration the diversity of the assessment population and the need to allow the full range of eligible students to respond to the item/stimulus.
- Constructs have been precisely defined and the item or task measures what is intended.
- Assessments contain accessible, non-biased items.
- Assessments are designed to be amenable to accommodations.
- Instructions and procedures are simple, clear, and intuitive.
- Assessments are designed for maximum readability, comprehensibility, and legibility.[12]
- The item or task material uses a clear and accessible text format.
- The item or task material uses clear and accessible visual elements (when essential to the item).
- The item or task material uses text appropriate for the intended grade level.
- Decisions will be made to ensure that items and tasks measure what they are intended to measure for English learner students with different levels of English proficiency and/or first language proficiency.
- All accessibility features have been considered that may increase access while preserving the targeted construct.
- Multiple means of presentation, expression, and engagement have been considered with regard to individual items/tasks for both students with disabilities and English learners.
- Changes to the format of an item will be considered that do not alter the item/task meaning or difficulty.

In addition to the universal design requirements, PARCC has provided item developers with comprehensive accessibility guidelines for writing items that are bias-free, sensitive to diverse cultures, stated clearly, of appropriate linguistic complexity, and consistently formatted.

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[12] Thompson, Johnstone, & Thurlow (2002). The National Center for Educational Outcomes (NCEO).

All items are then reviewed for content, bias & sensitivity, accessibility, and universal design. The Core Leadership Review Teams are being trained in reviewing items for both universal design and language complexity.

Principles of universal design, when applied to assessment, may provide educators with more valid inferences about the achievement levels of students with disabilities and English learners, as well as the achievement of their peers.

Universal design cannot eliminate the need for accommodations and alternate assessments. However, universally designed general assessments may reduce the need for accommodations and alternate assessments.

6b. Describe any comparability studies between the paper/pencil and computer-based assessments.

The majority of PARCC administrations will be computer-based, but there will be schools that administer paper-and-pencil versions of the PARCC assessments. Using data from the spring 2014 field tests, PARCC will conduct a study to investigate the following research questions:

1. To what degree are the item-level and test-level scores obtained from computer-based testing and paper-and-pencil testing comparable?
2. To what degree can comparability be obtained through scaling items onto a single metric, linking, or concordance?

Investigation of the dimensionality of the paper-and-pencil testing versus the computer-based testing field test data is a critical aspect of assessing mode effects. Analyses to examine the factor structure of the English language arts/literacy and mathematics test forms will be conducted separately by mode during the scoring and scaling of the field test data. The results will be leveraged to inform the subsequent mode and comparability analyses.

6c. Describe the processes for item development. The description should include:
1. **How the reading and writing items will require students to demonstrate a range of higher-order, analytical thinking and performance skills in reading, writing and research based on the depth and complexity of the standards, allowing robust information to be gathered for students with varied levels of achievement; and**
2. **How the mathematics items will require students to demonstrate a range of performance based on the depth and complexity of the standards, allowing robust information to be gathered for students with varied levels of achievement;**

General Item Development Process

The PARCC item development process follows accepted industry standards and best practice. Starting with evidence statements that specify the content and type of items to be developed, PARCC item development contractors build items accordingly, attending to content specifications, cognitive complexity dimensions, and style norms. Items are then brought forward to Core Leadership Group

reviewers (see below) to undergo rigorous reviewing and editing. Items that require heavy editing are reviewed a second, and third time, if necessary, to meet bias and sensitivity and content expectations, including ensuring items exist to address the full student performance continuum on grade. Once accepted by the Core Leadership Group, items are brought to State Educator reviewers (see below). Similar to the first round of reviews, the State Educator reviewers rigorously analyze the items to ensure they meet the specifications as well as all of PARCC's item quality indicators. Items that cannot be edited to meet these rigorous specifications are rejected.

To ensure that this process yields items of the highest quality, reviewers and facilitators are trained and calibrated prior to each review session, every 4-6 weeks. Additionally, as reviews are underway, lead state representatives monitor calibration levels across reviewers, providing coaching when necessary. To ensure this is a learning process, after each major development effort, PARCC re-evaluates the effectiveness of its item specifications, review process, and training materials. If standards are refined, PARCC will use these internal reviews to revise its specifications and supporting materials accordingly. The revision process includes input from PARCC content experts and representatives from all of its member states to ensure a full vetting prior to the initiation of item development.

ELA/Literacy Item Development and Design

PARCC is designed to *reward quality instruction aligned to the Common Core State Standards,* so the assessment is worthy of preparation rather than a distraction from good work. PARCC ELA/literacy item development adheres to four core principles:

- **Fidelity to the Standards:** PARCC evidence statements are rooted in the language of the Standards so that expectations remain the same in both instructional and assessment settings.
- **Better Standards Demand Better Questions:** Instead of reusing existing items, PARCC is developing custom items to the Standards.
- **Questions Worth Answering**: Sequences of questions that draw students into deeper encounters with texts are the norm (as in an excellent classroom), rather than sets of random questions of varying quality. This is accomplished using Task Generation Models (Click here for more information regarding Task Generation Models.)
- **Texts Worth Reading**: The assessments use authentic texts worthy of study instead of artificially produced or commissioned passages. (Click here for Passage Selection Guidelines.)

Shifts at the heart of PARCC design (tied to the CCSS):

1. **Complexity:** Regular practice with complex text and its academic language.
   a. PARCC builds a staircase of text complexity to ensure students are on track each year for college and career reading.
   b. PARCC rewards careful, close reading rather than racing through passages.
   c. PARCC systematically focuses on the words that matter most—not obscure vocabulary, but the academic language that pervades complex texts.
2. **Evidence:** Reading and writing grounded in evidence from text, literary and informational.
   a. PARCC focuses on students citing evidence from texts throughout the assessment.
   b. PARCC includes questions with more than one right answer to allow students to generate a range of rich insights that are substantiated by evidence from text(s).

c. PARCC requires writing to sources rather than writing to de-contextualized expository prompts.

d. PARCC also includes rigorous expectations for narrative writing, including accuracy and precision in writing in later grades.

3. **Knowledge:** Building knowledge through content-rich nonfiction.

a. PARCC assesses not just ELA but a full range of reading and writing across the disciplines.

b. PARCC simulates research on the assessment, including the comparison and synthesis of ideas across a range of informational sources.

For the PARCC ELA/Literacy assessments, two standards are always in play—whether items are focused on reading or writing. These standards are:

— Reading Standard One (Use of Evidence)
— Reading Standard Ten (Complex Texts)

Three Innovative Item Types That Showcase Students' Command of Evidence with Complex Texts:

- **Evidence-Based Selected Response (EBSR)—**Combines a traditional selected-response question with a second selected-response question that asks students to show evidence from the text that supports the answer they provided to the first question. Underscores the importance of Reading Anchor Standard 1 for implementation of the CCSS.

- **Technology-Enhanced Constructed Response (TECR)—**Uses technology to capture student comprehension of texts in authentic ways that have been difficult to score by machine for large scale assessments (e.g., drag and drop, cut and paste, shade text, move items to show relationships).

- **Prose Constructed Responses (PCR)—**Elicits evidence that students have understood a text or texts they have read and can communicate that understanding well both in terms of written expression and knowledge of language and conventions. There are three of these items of varying types on each annual performance-based assessment.

The **Performance Based Assessment (PBA)** for ELA/Literacy is composed of three tasks, administered in three sessions:

Literary Analysis Task (LAT)—
- Students carefully consider two literary texts worthy of close study.
- They are asked to answer a few EBSR and TECR questions about each text to demonstrate their ability to do close analytic reading and to compare and synthesize ideas.
- Students write a literary analysis about the two texts.

**Click here for an example of a complete Literary Analysis Task (Grade 8)

Narrative Task (NT)—
- Students read one brief text and answer a few questions to help clarify their understanding of the text(s).
- Students then write a narrative story.

**Click <u>here</u> for an example of a complete Narrative Task (Grade 6)

Research Simulation Task—
- Students begin by reading an anchor text that introduces the topic.
- EBSR and TECR items ask students to gather key details about the passage to support their understanding.
- Students read one (Grade 3) or two additional sources (Grades 5-11) and answer a few questions about each text to learn more about the topic, so they are ready to write the final essay and to show their reading comprehension.
- Finally, students mirror the research process by synthesizing their understandings into a writing that uses textual evidence from the sources.

**Click <u>here</u> for an example of a complete Research Simulation Task (Grade 11)

For the **End-of-Year Assessment** (EOY):
- Students will be given several passages to read closely.
- EBSR and TECR questions will be sequenced in a way that they will draw students into deeper encounters with the texts and will result in thorough comprehension of the concepts that can also provide models for the regular course of instruction.
- These tasks will draw on higher order skills such as critical reading and analysis, the comparison and synthesis of ideas within and across texts, and determining the meaning of words and phrases in context.

**Click <u>here</u> for an example of a complete EOY Set (Grade 5)

Mathematics Item Development and Design

PARCC is designed to *reward quality instruction aligned to the Common Core State Standards,* so the assessment is worthy of preparation rather than a distraction from good work. PARCC mathematics item development adheres to four core principles:

- **Fidelity to the Standards:** PARCC evidence statements are rooted in the language of the Standards so that expectations remain the same in both instructional and assessment settings.
- **Better Standards Demand Better Questions:** Instead of reusing existing items, PARCC is developing custom items to the Standards.
- **Variation in Task Type**: As the standards expect a wide range of mathematical skills from students, so do the PARCC tasks. Type I items focus on mathematical procedures with connections to the Practices; Type II items elicit evidence of a student's ability to reason with mathematics across multiple standards, with an equal emphasis on the Practices; and Type III items elicit evidence of a student's ability to model with and apply mathematics across multiple standards, with a greater emphasis on the Practices.
- **Questions Worth Answering**: Across the item types, PARCC items are posed in a clear manner and draw students more deeply into the mathematics content and practices at hand. For example, PARCC's reasoning tasks and application/modeling tasks utilize authentic contexts and provide opportunities for students to explain their thinking in a variety of ways.

Shifts at the heart of PARCC design (tied to the CCSS):

1. **Focus:** The assessments focus where the standards do.
   a. Depending on the grade level, about 70% of score points come from items aligned to the major work of the grade as defined by the *PARCC Model Content Frameworks*.
   b. Depending on the grade level, about 20% of score points come from items aligned to the supporting work of the grade as defined by the *PARCC Model Content Frameworks*.
   c. Depending on the grade level, about 10% of score points come from items aligned to the additional work of the grade as defined by the *PARCC Model Content Frameworks*.
2. **Coherence:** PARCC items follow vertical progressions as described in the Standards and include opportunities to synthesize mathematics across multiple standards.
   a. As mathematical domains progress and reach their conclusion, items do the same. For example, items expect more facility with arithmetic as grades progress.
   b. Items are developed to meet the natural "cross-over" points of mathematical ideas, often by aligning to more than one standard. For example, PARCC is developing items that synthesize measurement and arithmetic.
3. **Rigor:** PARCC items address the key areas of mathematical development.
   a. Procedural Skill: some PARCC items ask students to simply "do the math", with score points allotted to correct solutions.
   b. Conceptual Understanding: some PARCC items ask students to "understand the math" by asking students to justify their reasoning mathematically.
   c. Modeling/Application: some PARCC items ask students to "apply the math" in a variety of mathematical and authentic contents.

For the PARCC mathematics assessments, two types of standards are addressed.
   – Standards for Mathematical Content
   – Standards for Mathematical Practice

All items include content standards, and items address the Practices to a greater or lesser extent, with only a few exceptions.

The **Performance Based Assessment (PBA)** for ELA/Literacy is composed of three tasks, administered in two sessions:

Type II and Type III Tasks
   • Students reason and apply/model with mathematics
   • Items are constructed response and allow students the opportunity to justify their reasoning

**Click here for examples of Type II and Type III tasks.

Type I Tasks
   • Students respond to machine scorable items whose focus in procedure, but which contain relevant elements of the Practices.

**Click here for examples of Type I tasks.

For the **End-of-Year Assessment** (EOY):
- Students answer a wide variety of Type I, machine scorable items.
- Items contain a wide range of cognitive complexity, allowing students of varying levels access points to the tasks.

6d. Describe the procedures used to ensure all test items are properly aligned to applicable standards and avoid bias. Include the roll of state representatives in these processes.

To ensure that all test items are properly aligned to applicable standards and avoid bias, PARCC employs the following:

Evidence Statements:

- Evidences measured on the PARCC Summative Assessment are attached to the five PARCC claims: major work; additional/supporting work; reasoning; modeling/application and fluency (in grades 3-6).
- Evidences describe what students might say or do to demonstrate mastery of the standards.
- An item on the PARCC assessment may measure single or multiple standards and multiple evidences.

Click here to view a PPT that explains mathematics evidence statements in greater detail.

Core Leadership and State Educator Reviews:

PARCC engages a variety of educators and other experts from PARCC states to provide guidance by serving on committees covering topics such as test item review and bias and sensitivity.

All PARCC items undergo a series of reviews. Mathematics Operational Working Group (Math OWG) members at each grade level "shepherd" the items through the entire review process. Developed items first go through a Core Leadership Item Review, where state and district level content experts review items to ensure alignment, quality, and clarity. Items that need to be revised are brought back to the Math OWG members for an additional review. Items that make it past the CLG and OWG reviews are refined and presented at a State Educator Item Review. At this review, K-12 educators and higher education representatives again review items, checking alignment, quality and clarity. Items that need revision are again brought back to the Math OWG for an additional review.

As part of the review process, a member of the Accessibility, Accommodations, and Fairness Operational Working Group is embedded in each grade level content review group. This person is charged with determining the linguistic complexity of each item. PARCC is committed to ensuring there is a range of complexity with items to ensure that the assessments assess the full range of student performance, and determining linguistic complexity aids in that commitment. In addition to assigning the linguistic complexity, this member of the review committee also reviews the items for accessibility from the start

of the item development and review process in advance of all other reviews using adopted accessibility guidelines.

Bias and Sensitivity Reviews:

Bias and Sensitivity Reviews are also held to ensure that first passages, and then items are free from bias and are accessible to all students, parents and community members. Staffed by state representatives, the committee applies test development standards and adopted bias and sensitivity guidelines to ensure materials are fair and not insensitive or offensive. The committees also search for indications within passages and items that would be offensive to any subgroup of students, and include attention to race, ethnicity, disabilities, English language learners, and community norms. With respect to community norms, PARCC ensures that the assessment is balanced, and takes into account diverse perspectives while avoiding offensive material. These committee members also review for any reference or language in an item or passage that might cause a student to have an emotional reaction during the test administration that can prevent a student from being able to accurately demonstrate ability.

The committees use the following guiding questions:

- Does the passage disadvantage any population (gender, race, ethnicity, language, religion, socioeconomic status, disability or geographic region) for non-educationally relevant reasons?
- Does the passage contain controversial or emotionally charged subject matter that is not supported by the Common Core State Standards?
- Is the passage potentially offensive, demeaning, insensitive, or negative toward any population?
- Does the passage depict any population in a stereotypical manner?

6e. Describe the procedures for ongoing assessment item development, including procedures to accommodate any future modifications to the relevant academic standards.

Please refer to question 6c for information on ongoing item development.

6f. Describe field testing procedures and timelines for the assessments. Include information regarding field testing of Arizona students, if applicable.

PARCC is on-track to deliver the spring 2014 PARCC Field Test – a critical milestone in PARCC's work. The sampling for the PARCC Field Test was a two-stage sampling process to ensure representativeness both within PARCC states and across the PARCC consortium: 1) Schools were randomly selected to participate in the field test, 2) Students will be randomly selected to participate in the field test.

Recruitment for the field test is currently underway and will be finalized in December 2013. Arizona is participating in the field test. Approximately 120,000 students are targeted to be included in the sample, which includes 1,500 schools across 450 districts in the state.

Moving forward, PARCC will continue with the necessary activities to prepare for field testing, including training and site readiness activities as well preparing and reviewing the testing forms. The Field Test will be administered between March 24, 2014 and June 6, 2014.

7a. Describe the pricing structure including the cost per student.

The pricing structure will be a per student cost for the summative assessments. The PARCC Governing Board set as a goal that the summative assessments for grades 3-11 not exceed an average of approximately $30 per student for both the ELA/literacy and mathematics assessments. The cost of the non-summative assessments (diagnostic, Mid-year, and K-1 tools) is to be determined. States will have the option to procure those assessments.

e. Describe the procedures for ongoing assessment item development, including procedures to accommodate any future modifications to the relevant academic standards.

f. Describe field testing procedures and timelines for the assessments. Include information regarding field testing of Arizona students, if applicable.

7. **Assessment Cost**

a. Describe the pricing structure including the cost per student.

Instructions
Any submitted materials considered by the respondent to be proprietary or confidential shall be clearly marked as such and provided as a separate section in your response. In response to such requests, the State will make reasonable efforts to maintain confidentiality of these materials to the extent permissible by law. However, should the State be required to release these materials, the State will provide the respondent reasonable notice in advance of doing so in order to allow the respondent time to take any action to prevent these materials from being released.

CLARIFICATION OF SOLICITATION REQUIREMENTS
It is the responsibility of all Offerors to examine the RFI and seek clarification of any item or requirement that may be clear or unclear to them and to check all offers for accuracy before submittal to SBE/ADE.

Any questions regarding this solicitation can be answered by emailing the contact person listed on the title page of this solicitation. All questions must be in writing. The Chief Procurement Officer is the only authorized person to give information as to the requirements of the solicitation in addition to that contained in the written documents.

Questions should be emailed and received by Chief Procurement Officer no less than seventy-two hours before the RFI due date and time.

All questions must reference the page and item that is to be addressed.
All addendums should be acknowledged using the Addendums Acknowledgement Form
included in this document. No verbal or written information, which is obtained other than by information in this document or by Addendum to this solicitation, will be binding on the Arizona Department of Education.

I/We _Dan Long (IL) and Mary Ann Snider (RI)_ the undersigned, do hereby submit this response for information with regard to the Standards-Based Competency Assessments in accordance with ARS §41-2555 Request for Information specification contained herein.

[signatures]   December 5, 2013

Name   Date

RI Dept of Ed.   IL State Board of Ed   Chief of Ed. Exc. and Inst.
                                             Coordinator IL Race Effect.

Company Name   Title

Providence, RI   Springfield, IL   401-222-8492
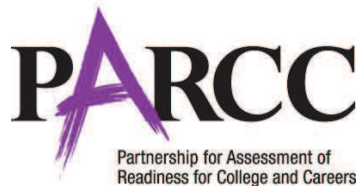   217-782-4321

Address   Telephone Number
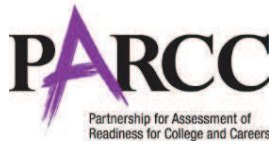
Partnership for Assessment of Readiness for College and Careers (PARCC) Member States
December 2013

Governing States

Arizona
Arkansas
Colorado
District of Columbia
Florida
Illinois
Indiana
Louisiana
Maryland
Massachusetts
Mississippi
New Jersey
New Mexico
New York
Ohio
Rhode Island
Tennessee

Participating States

Kentucky
Pennsylvania

**Arizona State Leaders' Involvement in PARCC**

- **Governing Board:**
  - John Huppenthal, Superintendent of Public Instruction, Arizona Department of Education

- **Advisory Committee on College Readiness (ACCR):**
  - Eileen Klein, President, Board of Regents of the Arizona University System

- **PARCC K-12 State Leads/Governing Board Deputies:**
  - Sarah Gardner, Director for PARCC and Innovation Assessments, Arizona Department of Education
  - Jennifer Johnson, Deputy Superintendent, Arizona Department of Education
  - Stacey Morley, Director of Policy Development and Government Affairs, Arizona Department of Education
  - Leila Williams, Deputy Associate Superintendent of Assessment, Arizona Department of Education

- **Higher Education Leadership Team Members**:
  - Stephanie Jacobson, Associate Vice President, Academic and Student Affairs, Arizona Board of Regents
  - Maria Harper-Marinick, Executive Vice Chancellor and Provost, Maricopa Community Colleges
  - Karen Nicodemus, President Emerita, Cochise Community College

- **Postsecondary Engagement Team**
  - Rebecca Gau, Director, Arizona Governor's Office of Education Innovation
  - Jennifer Johnson, Deputy Superintendent, Arizona Department of Education
  - Carol Spencer, Executive Director, APASC/AZTransfer

- **Operational Working Groups:**
  - *Accessibility, Accommodations and Fairness*
    - Leila Williams, Deputy Associate Superintendent of Assessment, Arizona Department of Education
  - *Common Core State Standards/Educator Engagement:*
    - Wendi Anderson, Former Director of PARCC, Arizona Department of Education
    - Sarah Galetti, Deputy Associate Superintendent, K-12 Academic Standards, Arizona Department of Education
    - Shelly Pollnow, Arizona NAEP Director, Arizona Department of Education
    - Leila Williams, Deputy Associate Superintendent of Assessment, Arizona Department of Education
  - *English Language Arts/Literacy:*
    - Wendi Anderson, Former Director of PARCC, Arizona Department of Education
    - Frank Brashear, Director of Test & Item Development, Arizona Department of Education
    - Sarah Gardner, Coordinator of Assessment Support Materials, Arizona Department of Education
  - *Mathematics:*
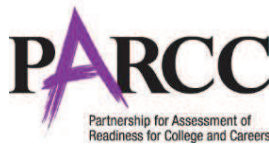
- - Kevin Bruney, Mathematics Assessment Specialist, Arizona Department of EducationTed Coe, Assistant Dean, College of Education, Grand Canyon University
  - *Non-Summative Assessment Development:*
    - Shelly Pollnow, Arizona NAEP Director, Arizona Department of Education
    - Patricia Reynolds, Arizona Department of Education
    - Leila Williams, Deputy Associate Superintendent of Assessment, Arizona Department of Education
  - *Project Management:*
    - Irene Hunting, Director, Test Administration and Contract Management, Arizona Department of Education
  - *Research and Psychometrics:*
    - Leitta Scott, Educational Program Specialist, Research, Arizona Department of Education
  - *Technology:*
    - Mark Masterson, CIO, Arizona Department of Education
    - Cathy Poplin, Deputy Associate Superintendent for Education Technology, Arizona Department of Education
  - *Test Administration:*
    - Frank Brashear, Director of Test & Item Development, Arizona Department of Education

- **PARCC State Item Review Committees[i]:**
  - Scott Adamson, Math Faculty, Chandler-Gilbert Community College
  - Wendi Anderson, Former Director of PARCC, Arizona Department of Education
  - Chryste Berda, Math Curriculum Coordinator, Rodel Charitable Foundation of Arizona
  - Jean Boreen, Associate Dean of the College of Arts and Letters, Northern Arizona University
  - Kevin Bruney, Mathematics Assessment Specialist, Arizona Department of Education
  - Ted Coe, Assistant Dean, College of Education, Grand Canyon University
  - Shannon Ferguson, K-12 Mathematics Coordinator, Peoria Unified School District
  - Sarah Gardner, Director for PARCC and Innovation Assessments, Arizona Department of Education
  - Erin Gonzales, Curriculum and Instructional Coach, Peoria Unified School District
  - Jean Greyeyes, Instructional Coach, Kayenta Unified School District
  - Bette Lovelace, English Language Arts Specialist, Arizona Department of Education
  - Suzi Mast, Mathematics Education Specialist, Arizona Department of Education
  - Lyndsey Reeves, Title I Coordinator, Gilbert Unified District
  - Kimberly Rimbey, Curriculum/ Professional Development Director, Rodel Charitable Foundation of Arizona
  - Rachel Stafford, AP English Language, Senior Composition - English Department Chair, Gilbert Unified School District
  - Mona Toncheff, Math Content Specialist, Phoenix Union High School District

- **Educator Leader Cadre Members:**
  - Pam Betten, Director of School Improvement, Sunnyside Unified School District
  - Patricia Cruz, Regional Master Teacher Leader, Arizona State University
  - Robert Cuff, Professional Development – Literacy, Tempe Elementary School District
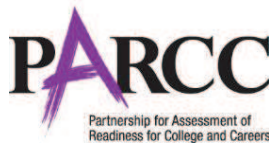
- o Candace Diehl, Administrator for Standards and Assessment, Maricopa County Education Service Agency
- o Yvette Dix, Regional Master Teacher Leader, Arizona State University
- o Sarah Galetti, Deputy Associate Superintendent, K-12 Standards, Arizona Department of Education
- o Arlynn Godinez, Director of Curriculum and Programs, Superior Unified School District
- o Gail Gorry, Curriculum Specialist for Gila County, Gila County Education Service Agency
- o Kristina Grebloski, Math Teacher/Department Chair/Assessment Data Coordinator, Marana Unified School District
- o Jamie Haines, Professional Development Coach, Crane Elementary School District
- o Cheryl Johnson, Secondary Math Specialist, Mesa Public School District
- o Ildi Laczko-Kerr, Vice President of Academics, Arizona Charter Schools Association
- o Debbie LeBlanc, 6-12 Language Arts Curriculum Specialist, Peoria Unified School District
- o Cheryl Mango-Paget, Associate Superintendent, Coconino County Education Service Agency
- o Suzi Mast, Mathematics Specialist, Arizona Department of Education
- o Jodi Lewis Pfeffier, Teacher on Special Assignment: K-5 Math Specialist, Kyrene School District
- o Georgina Santiago-Reis, Professional Development Coordinator, Apache County Education Service Agency
- o James Cory Shinkle, Curriculum Coordinator, Glendale Union High School District
- o Angie Stratton, Instructor, Rio Salado Community College
- o Mona Toncheff, Math Content Specialist, Phoenix Union High School District
- o Anna Van Zile, Principal, Payson High School
- o Lois Whisiker-Williams, Master Educator and ELA Content Specialist, Retired
- o Lynn Winslow, K-6 Instructional Coach, Cottonwood-Oak Creek Elementary School District

- **Performance Level Descriptor Panel Members:**
  - o Ted Coe, Assistant Dean, College of Education, Grand Canyon University
  - o Sarah Gardner, Director for PARCC and Innovation Assessments, Arizona Department of Education
  - o Patricia Reynolds, Arizona Department of Education

- **Technical Issue and Policy Working Group Participants:**
  - o Carrie Giovannone, Deputy Associate Superintendent, Research and Evaluation, Arizona Department of Education
  - o Stacy Morley, Director of Policy Development and Government Affairs, Arizona Department of Education
  - o Debora Norris, Director, Indian Education, Arizona Department of Education

- **Transition and Implementation Institute Team Members:**
  - o Cathleen Barton, Education Manager, Intel
  - o Alex Duran, Director of Assessment and Evaluation, Pima County Superintendent's Office
  - o Roger Freeman, Superintendent, Littleton Elementary School District #65
  - o Sarah Galetti, Deputy Associate Superintendent, K-12 Academic Standards, Arizona Department of Education
  - o Rebecca Gau, Director, Governor Brewer's Office of Education Innovation
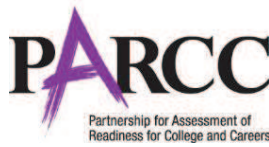
- o Kathy Hrabluk, Associate Superintendent, Arizona Department of Education
- o Stephanie Jacobson, Associate Vice President of Academic and Student Affairs, Arizona Board of Regents
- o Kay Johnson, Superintendent, Greenwood School District
- o Peter Laing, Special Assistant to Chief of Programs and Policy, Arizona Department of Education
- o Andrew LeFevre, Director of Public Relations, Arizona Department of Education
- o Stacy Morley, Director of Policy Development and Government Affairs, Arizona Department of Education
- o Kristine Morris, Chief Deputy Superintendent, Maricopa County Education Service Agency
- o Karen Nicodemus, Chair, Governor's P-20 Council, Standards and Assessment Committee
- o Debra Raeder-Gay, Associate Director, Governor Brewer's Office of Education Innovation
- o DeAnna Rowe, Executive Director, Arizona State Board for Charter Schools
- o John Stollar, Chief of Programs and Policy, Arizona Department of Education
- o Tom Tyree, Vice President, Arizona State Board of Education
- o Vince Yanez, Executive Director, Arizona State Board of Education

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[i] Item review team members as of 10/21/13

Mimi Abdulkadir, Meeting Planner
- Plans and executes meetings to support governance and test development activities for the PARCC consortium, including for the Governing Board, K-12 State Leads Meeting, Advisory Committee on College Readiness, Higher Education Leadership Team, Technical Advisory Committee, and various working groups and ad hoc meetings.
- Previously, Mimi worked for the Chamber of Commerce in Chicago as the Planning Committee Manager. She's worked on various events in Chicago for the Alderman, and the Mayor's office.
- She holds a bachelor's degree from Virginia Commonwealth University in Business Management.

Wendi Anderson, Senior Associate, English Language Arts/Literacy
- Content specialist in English Language Arts/literacy for PARCC.
- For the content area of English Language Arts/literacy, coordinates Phase II Item Construction, Forms Construction, Diagnostic Assessment item specifications, Speaking & Listening Assessments Specifications, K-1 Anchor Standards, Sample Items, and supports the Educator Leader Cadres.
- Over 17 years of experience in ELA education and assessment. Previously, Wendi served as the Director for PARCC/Innovative Assessment for the Arizona Department of Education. Wendi spent nine years working on the Arizona Instrument to Measure Standards (AIMS). Wendi also spent nine years working as a contract assessment item and passage writer for CTB McGraw-Hill.
- Wendi earned her bachelor's degree in English and secondary education from Ottawa University and her master's degree in English and secondary education from Northern Arizona University.

Allison Barr, Associate Director, Delivery
- Responsible for overall coordination and implementation across the various work streams of the PARCC project.
- Manages weekly staff check-ins with the CEO and monitors overall project status.
- Serves as the liaison with the U.S. Department of Education for budget, program review, monthly reporting, and any program amendments that may be required, and provides monthly project updates to all Governing entities and stakeholders as needed.
- Allison previously served as a Policy Analyst at Achieve. While at Achieve, Allison helped to manage Achieve's analysis of California's Early Assessment Program, conducted extensive benchmarking research in support of the Common Core State Standards, supported state implementation of the CCSS and PARCC, and played a critical role in launching PARCC's development efforts. Prior to joining Achieve, Allison was a Research Assistant at the American Institutes for Research.
- She earned a bachelor's degree in political science from Allegheny College and a master's of public policy from The George Washington University.

Brendan Bourque, Executive Assistant, Content and Instructional Supports
- Provides scheduling and administrative support for the Content and Instructional Supports Unit.
- Provides overall office management support and coordination to the PARCC, Inc. staff.
- Coordinates monthly reports to U.S. Department of Education.
- Joined the staff in May of 2013. Prior to his current position, he worked as a Project Coordinator and Executive Assistant to the Executive Vice President and Principal for a strategic communication firm that dealt primarily with government agencies and non-profits.
- Attended Northeastern University, in Boston, Massachusetts, where he received his bachelor's degree in Communication Studies.

PARCC STAFF: Roles, Responsibilities and Qualifications

Lynn Brabender, Program Associate, State Engagement & Outreach
- Supports the higher education outreach and state engagement strategy for PARCC, including management of the Higher Education Leadership Team, management of the PARCC team's speaking engagement activities, policy research and development activities, and communications tools development.
- Previously, Lynn worked in developmental education and dual enrollment program evaluation for the Charles A. Dana Center at The University of Texas and as a researcher and study coordinator for the Women's Health Research Unit at the Oregon Health and Science University.
- She holds a bachelor's degree in philosophy from the University of Colorado at Boulder and received her master's in public affairs from the Lyndon B. Johnson School of Public Affairs.

Kevin Days, Associate Director, Operations
- Oversees and manages the PARCC budget, contracts, and reporting requirements.
- Serves as the liaison with the U.S. Department of Education for budget, program review, monthly reporting, and any program amendments that may be required.
- Monitors Memoranda of Agreement with Governing States and Higher Education Institutions.
- Previously, Kevin served as Learn and Serve America's Advisor for Higher Education Special Initiatives at the Corporation for National and Community Service. He was the first executive director of the New York Campus Compact, a consortium of 50 New York State colleges and universities. From 1997 to 2002, Kevin served as the executive director of the Booker T. Washington Community Center. Kevin was elected to the Board of Education for the Auburn Enlarged City School District in May 2001, serving as its Vice President during the last year of his term.
- He earned his bachelor's degree in History from SUNY Plattsburgh and a master's degree in American History from Cornell University.

Enis Dogan, Associate Director, Research
- Responsibilities include designing, managing, and conducting research to inform the development of PARCC assessments as valid and reliable tools that measure whether students are on track for postsecondary success.
- Coordinates the work of the PARCC Technical Advisory Committee (TAC) and oversees execution of the PARCC research agenda.
- Previously, he worked at the American Institutes for Research (AIR) as the director and lead psychometrician for the National Assessment of Educational Progress (NAEP) Research Studies and Technical Support project.
- Enis holds a doctorate in Measurement, Evaluation and Statistics from Columbia University. Between 2002 and 2005, he taught a graduate level statistics course at Columbia University for three semesters and received a Distinguished Teaching Award from the same institution in 2005. Prior to his graduate studies at Columbia University, he served as a science and physics teacher at a private school in Turkey.

Tracy Graham, Director, Summative Assessment
- Oversees the vendors associated with PARCC's contracts for the development of the core components of the PARCC summative assessment system, including, item development, assessment administration, and the development and deployment of the assessment system technology platform.
- Serves as the primary point of contact with vendors, providing status and issue escalation, contract and scope management, budget management, and schedule management for assigned contracts.

- Previously, she was a Portfolio Manager at CTB McGraw Hill. She earned her BS in Information Systems Management from the University of San Francisco and her AS Degree in Computer Science from Monterey Peninsula College.

Danielle Griswold, Program Associate, Policy, Research, and Design
- Manages PARCC projects in early learning; accessibility, accommodations, and fairness; and governance.
- Manages PARCC K-12 State Leads through weekly conference calls, in-person convenings, and webinars.
- Supports efforts to ensure the PARCC assessments are accessible to all students through the development of accessibility and accommodations policies.
- Previously, Danielle taught middle school special education in Washington, DC, and served as a Content Specialist with Teach for America. She worked as an international relations analyst and evaluator of education initiatives to combat the worst forms of child labor at the U.S. Department of Labor, and as a senior program associate in the Office of Special Education at DC Public Schools.
- She earned a bachelor's degree in English from Carnegie Mellon University, a master's degree in special education from George Mason University, and a master's degree in public policy from Georgetown University.

Tracy Halka, Associate Director, Assessment Administration
- Manages PARCC's contracts for the development of the core components of the PARCC summative assessment system, including, item development, assessment administration, and the development and deployment of the assessment system technology platform.
- Previously served as the project manager for Achieve's Assessment Partnership, a 15-state effort to develop common algebra assessments. Tracy was responsible for the management of this effort.
- Previously, Tracy worked at the Florida Department of Education on the Florida Comprehensive Assessment Test (FCAT). Her responsibilities included overseeing the development and scoring of the Florida assessment in mathematics. Prior to her assessment work, Tracy taught high school mathematics in Broward County, Florida.
- She earned her bachelor's degree in Mathematics Education and her master's degree in Measurement and Statistics from Florida State University.

Margaret Horn, Vice President, State Engagement and Outreach
- Leads PARCC's state membership support strategy, including consortium governance, policy and implementation support to states, communications and outreach with state and national stakeholders, and strategic partnerships with national partners.
- Previously, she worked for Governor Phil Bredesen (TN) for seven years, where she led the development of state's successful Tennessee's Race to the Top proposal. She has served as product content manager for an educational software company, as Tennessee's AmeriCorps program officer, and as executive director for a higher-education service learning program.
- She holds a bachelor's degree in anthropology from Vanderbilt University and a master's in medical anthropology from the University of North Carolina at Chapel Hill.

Jessica Jackson, Senior Program Associate, Technology
- Supports key projects related to the ongoing development of PARCC's assessment technology infrastructure, including the School and District Technology Readiness Tool and the Partnership Resource Center.

- Jessica worked for 7 years as an IT and Management Consultant with various Federal Agencies providing program management support on technology implementation projects and facilitating business process improvement.
- She holds both a bachelor's degree in Business and MBA from Florida A&M University and a master's degree in Urban Education Policy from Brown University. In addition, she holds certification as a Certified Six Sigma Green Belt (CSSGB, ASQ) and Program Management Professional (PMP, PMI).

Allison G. Jones, Vice President, Postsecondary Engagement
- Leads the higher education engagement outreach for PARCC to ensure that postsecondary institutions accept and use the PARCC college- and career-ready determination to place students into entry-level credit-bearing courses. This includes leadership for the Advisory Committee on College Readiness, the Higher Education Leadership Team, and engagement with national higher education organizations.
- Allison worked for the California State University for 25 years, 23 of which were with the Office of the Chancellor where he served as the Assistant Vice Chancellor of Academic Affairs for Student Academic Support. He also led CSU's Early Assessment Program (EAP), the largest effort in the nation to use a college readiness test in high school.
- He earned his bachelor's degree in English literature and master's degree in counseling from the University of Redlands.

Linda Kaniecki, Senior Advisor, Mathematics
- For the content area of Mathematics, manages Forms Construction, Diagnostic Assessment item specifications, and sample item development.
- Prior to joining the staff, Linda spent 17 years as a mathematics teacher in Harford County, Maryland Public Schools. In 1998, Linda became a Mathematics Specialist for the Maryland State Department of Education. She was co-chair of PARCC's Mathematics Operational Working Group and participated in the development of Appendix A to the Mathematics Common Core State Standards –Model Course Pathways in Mathematics.
- She earned her bachelor's degree in Secondary Mathematics Education from Bloomsburg University in Pennsylvania and her master's degree in Secondary Education from Towson University in Maryland.

Casey Maliszewski, Program Associate, Policy, Research & Design
- Supports a range of policy, research and test development activities for the PARCC summative assessments, including field testing, test administration policy development, score reporting, growth models, and the PARCC research agenda.
- Prior to joining the staff, she was a Research Assistant for the New Jersey Council of County Colleges and taught English writing and sociology at an alternative school in Massachusetts.
- She holds an associate degree in English from Raritan Valley Community College, a bachelor's degree in sociology from Mount Holyoke College, and a master's degree from Teachers College, Columbia University in sociology and education with a policy concentration.

Sarah Mathews, Program Associate, Operations
- Provides program management support to the PARCC team through her work on project schedules and process documentation.
- Coordinates weekly fiscal agent calls and manages monthly invoicing.
- Previously, Sarah ran events for a private family foundation and prior to that, worked as a program management consultant at the Administrative Office of the Federal Courts.

- She earned a bachelor's degree in International Affairs from The George Washington University and an Information Technology Infrastructure Library (ITIL v3) certificate. She is currently working towards her master's degree at The George Washington University.

Lesley Muldoon, Associate Director, State Engagement and Outreach
- Manages state engagement and participation in PARCC and facilitates consortium governance
- Leads planning and execution of PARCC Governing Board and Executive Committee meetings
- Manages PARCC consortium sustainability planning
- Manages communications and outreach efforts, including as interim communications director
- Previously, Lesley served as a policy analyst and at Achieve and managed the development of the PARCC application for the Race to the Top assessment grant. Lesley also worked for four years as an aide to U.S. Congressman Rush Holt (NJ-12).
- She holds bachelor's degree in English and history from the University of Maryland and a master's in education policy from Georgetown University.

Jeffrey Nellhaus, Director, Policy, Research & Design
- Responsible for the quality of the overall design and development of the PARCC summative assessments in mathematics and English language arts/literacy, including test blueprints, field testing, and forms construction.
- Leads PARCC assessment policy development work (e.g. performance level descriptors) and PARCC's research agenda to ensure a valid, reliable and fair assessment program.
- Before joining the staff, Jeff spent nearly 25 years with the Massachusetts Department of Elementary and Secondary Education as Deputy Commissioner, Acting Commissioner, and Associate Commissioner for Curriculum and Assessment. He directed the design, development and implementation of the Massachusetts Comprehensive Assessment System (MCAS), and the development of the Massachusetts Curriculum Frameworks.
- He has served on the National Validity Studies Panel to National Assessment of Education Progress (NAEP) and on Technical Advisory Committees for the states of Maine, Kentucky and Rhode Island. He has also served on the Technical Advisory Committee on Standard Setting for NAEP and on the Growth Model Peer Review Panel for the U.S. Department of Education.
- He holds bachelor's in Chemistry from the University of Massachusetts, a master's in Science Teaching from Antioch Graduate School of Education, and an Ed.M. in Administration, Policy and Planning from Harvard Graduate School of Education.

Tamara Reavis, Senior Advisor, Assessment Accessibility and Fairness (AAF)
- Leads the work to ensure that PARCC assessments are fair and accessible to all students, especially students with disabilities, English language learners, and economically disadvantaged students.
- Leads bias and sensitivity review of the PARCC assessment items and manages state working group and national expert advisory group on accessibility, accommodations and fairness.
- Leads development of the PARCC accessibility and accommodations policies.
- Before joining the staff, Tamara served as the Director of Standards, Assessments and Accountability in the District of Columbia's Office of the State Superintendent of Education (OSSE). Previously, Tamara taught high school English in North Carolina and Florida, served the English Department Chairperson, and wrote curriculum and interim assessment at both the district and school level. She holds a B.A. in English from the University of North Carolina, Charlotte and an M.S. in Educational Leadership from NOVA Southeastern University in West Palm Beach, FL.

PARCC STAFF: Roles, Responsibilities and Qualifications

Callie Riley, Senior Program Associate, State Engagement and Policy
- Manages PARCC's K-16 educator engagement activities, including the Educator Leader Cadres and partnerships with education associations and other organizations.
- Manages PARCC higher education engagement activities, including the Advisory Committee on College Readiness, Higher Education Leadership Team, and partnerships with national postsecondary partners.
- Supports PARCC communications and outreach, including managing social media presence for PARCC.
- Callie taught junior high school English in the Kuji City (Japan) public school system and reading at Glenridge Middle School in Orlando, Florida.
- She holds a bachelor's in East Asian Studies and Political Science from Wittenberg University (Ohio) and a master's in Educational Leadership and Policy from the University of Maryland, College Park.

Twianie Roberts, Senior Associate, Mathematics
- For the content area of Mathematics, leads Phase II Item Development, K-1 Anchor Items, Forms Construction, Diagnostic Assessment item specifications, and sample item development. She also supports the Educator Leader Cadres.
- Coordinates with state mathematics design teams, relevant task forces and with the PARCC Research team to support and conduct research for the assessments and assessment models.
- She has nearly 20 years of teaching experience at the K-12 and university levels. She was authored six Mathematics books designed to increase student achievement.
- She earned her bachelor's degree in Mathematics from Fisk University, a master's degree in Mathematics from Tennessee State University and a doctoral degree in Educational Administration and Supervision from Tennessee State University.

Laura McGiffert Slover, Chief Executive Officer
- Leads the work of the consortium by working with educators and policymakers from each of PARCC's states to bring the new computer-based tests to schools for field testing this spring and operational use in the 2014-15 school year.
- Responsible for overall management of PARCC, Inc.
- Prior to becoming CEO, Laura served as the senior vice president at Achieve, a bipartisan education reform organization, which has been serving as the project manager for PARCC since 2010. Since she joined Achieve in 1998, she has worked in various roles to support states. From 2009-10, Laura led Achieve's efforts to support the development of the Common Core State Standards and has been leading it PARCC project management team since 2010. Laura began her career in education as an English teacher and basketball coach at Battle Mountain High School in Vail, Colorado, and an English instructor at Colorado Mountain College.
- She earned a bachelor's degree in English and American literature from Harvard University; a master's in education curriculum and instruction from the University of Colorado at Boulder; and a master's in education policy from Georgetown University

Stephanie Jacobs Snyder, Program Associate, Policy, Research & Design
- Supports a range of policy, research and test development activities for the PARCC summative assessments, including ongoing item development, test administration policy development, operational assessment planning, standard-setting and performance level descriptors, and assessment cost estimations.
- Prior to joining the staff, Stephanie taught elementary and middle school in Washington, DC, and in Boston, Massachusetts.

- She holds a bachelor's degree in Spanish and Portuguese from Princeton University, and a master's degree in Education Policy and Management from Harvard University.

Doug Sovde, Director, Content and Instructional Supports
- Leads the Content and Instructional Supports Unit.
- Accountable for overall quality of Phase II Item Development, development of Professional Development Modules, development of all non-summative components of PARCC (Diagnostic Assessment, K-1 Tools, and the Speaking and Listening Assessment).
- Serves as a content expert liaison to PARCC national partners and stakeholders including AFT/NEA, National Council of Teachers of Mathematics, etc.
- Prior to joining the PARCC project team, Doug worked at Achieve with a dozen states to increase the rigor of their standards and align their standards and assessments. He participated as a member of the writing team of the Common Core State Standards, having principal responsibility for creating Appendix A to the mathematics standards, also known as the Model Course Pathways in Mathematics. Doug spent 12 years in the Bellevue, Washington Public Schools as a teacher, an assistant principal and a principal.
- He earned his bachelor's degree in mathematics from the University of Washington, his master's degree in Curriculum and Instruction from Western Washington University, and his principal certification from the University of Washington's Danforth Educational Leadership and Policy Studies Program.

Katie Tilley, Executive Assistant to the CEO
- Manages all scheduling and administrative tasks for the CEO
- Provides overall office management support and coordination to the PARCC, Inc. staff
- Prior to her current position, Katie worked for four years as the Scheduler and Office Manager to then-U.S. Representative Steve Kagen. She also worked on the 2004 presidential campaign as Director of Operations for the Minnesota Kerry-Edwards Coordinated Campaign.
- Katie holds a bachelor's in Political Science and General Business Management from the University of St. Thomas in St. Paul, Minnesota.

Susan Van Gundy, Associate Director, Technology
- Leads the development of technology strategies and implementation systems for PARCC, including technical architecture, technology-enhanced assessment items, and digital content to support instruction and teacher professional development
- Manages the PARCC Technology working group and works closely with assessment design and research teams to ensure alignment between PARCC's assessment design and technology design
- She is the former Director of Education and Strategic Partnerships for the National Science Digital Library (NSDL), where she provided vision and project leadership for national-scale cyber infrastructure initiatives supporting science, technology, engineering, and mathematics. She has also worked at the Denver Museum of Nature and Science and the Oregon Museum of Science and Industry.
- She holds a B.S. in Geology from Oberlin College and an M.S. in Geosciences from The Pennsylvania State University.